Wayne Reclamation & Recycling, Inc.

Interim Remedial Action Report

Columbia City, Indiana

August 1995

MONTGOMERY WATSON

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INTRODUCTION

This report documents completion of the Non-City Settlors' portion of the Remedial Action at the Wayne Reclamation & Recycling (WRR) site in Columbia City, Indiana. Documentation of completion of the City Settlor's (i.e., Columbia City's) portion of the Remedial Action is provided separately by Columbia City's contractor (Geraghty & Miller). As outlined in the Record of Decision (ROD), the Remedial Action (inclusive of both the Non-City and City portions) included:

- Construction, operation and maintenance of a Soil Vapor Extraction (SVE) system in the volatile organic compound (VOC) contaminated soil areas;
- Construction, operation and maintenance of a groundwater extraction and treatment/discharge system;
- Delineation and remediation of lead-contaminated soils via soil washing or immobilization technologies, if those soils have the RCRA characteristics of toxicity;
- Delineation of the extent of the municipal landfill;
- Construction and maintenance of a RCRA Subtitle D compliant municipal landfill cap;
- Covering polyaromatic hydrocarbon (PAH) contaminated soil or consolidation under the municipal landfill cap;
- Imposing deed restrictions to ensure protection of the municipal landfill cap and PAH-contaminated soil cover, if any;
- Monitoring of groundwater and air;
- Installation of an upgraded security fence around the facility;
- Removing and treating contents of all above- and below ground tanks; delineation of the extent of contamination due to spills or leaks associated with the tanks, and remediation of such contamination; and
- Removal and disposal of site debris, including but not limited to all tanks, tanker trucks, and the incinerator.

As a Potentially Responsible Party, Columbia City completed the following Remedial Action activities:

- Delineation of the extent of the municipal landfill;
- Construction and maintenance of a RCRA Subtitle D compliant municipal landfill cap;
- Covering PAH-contaminated soil or consolidation under the municipal landfill cap;
- Imposing deed restrictions to ensure protection of the municipal landfill cap and PAH-contaminated soil cover; and
- Removal and disposal of the incinerator and landfill debris.

The remainder of the Remedial Action activities were completed by the Non-City Settlors and are the focus of this report. The Non-City Settlors' activities included:

- Construction of the soil vapor extraction system, the groundwater extraction system, and the off-gas and groundwater treatment system;
- Investigation of lead contaminated soils;
- Monitoring of groundwater and air;
- Installation of security fencing;
- Removal and disposal of the contents of all above- and below ground tanks; and
- Removal and disposal of site debris (except landfill debris).

In addition to the Remedial Action activities outlined in the ROD, the Non-City Settlors removed and disposed of waste material from the abandoned WRR office building/maintenance garage. The abandoned office building was boarded shut following removal of the waste material.

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BACKGROUND

2.1 SITE DESCRIPTION

The WRR site is located in central Whitley County, approximately 20 miles northwest of Fort Wayne, Indiana (Figure 1). It is situated in the northern half of the southeast quarter of Section 11, Township 31 North (T31N), Range 9 East (R9E). The site, which is approximately 30 acres, is located on the southeast edge of the Columbia City limits, and is bounded on the south and east by the Blue River (Figure 2). It includes approximately 20 acres currently owned by WRR, 6 acres in the north owned by Holmes & Co., and 4 acres on the west owned by the City of Columbia City.

2.2 SITE HISTORY

In 1975, WRR, Inc. (WRR) purchased approximately 25 acres of land on the southeast edge of Columbia City, including a 13.6-acre portion owned by Columbia City since 1953. WRR, and its purported division, Wayne Waste Oil, began operating an oil reclamation business at the site in 1975. In 1976, a license to haul liquid industrial waste was granted by the Indiana Pollution Control Board. In 1982, WRR sold approximately 6 acres on the northern part of its property to Holmes & Co.

On behalf of WRR and one of its principals, Wayne Brockman, Beranek Associates, Inc. (Beranek, 1984) conducted a risk assessment for the site between March 1983 and June 1984. That assessment showed little potential for groundwater contamination or impact on the City drinking water supply, provided that the use of City Well #8 is limited. Furthermore, the risk assessment indicated that potential impact to the Blue River was low, except in the instance of a severe flood which could wash chemicals from the "sludge ravine" into the river. WRR did not perform a cleanup of the site. WRR continued operation of the site until approximatley 1989.

The U.S. EPA and about 100 potentially responsible parties (PRPs) entered into an Administrative Order by Consent, dated July 10, 1986, which required those PRPs to: install temporary fencing and warning signs; remove drums located on the surface of the site; excavate and remove certain buried drums; sample and test the contents of the removed drums; excavate liquids, sludges, and/or contaminated soil in the so-called "oil decanting pit," "sludge ravine,"

"tar pit," and "buried barrel area;" and dispose of all such removed materials. This work was performed from late summer 1986 to fall 1987.

Further removal work was performed by four companies named in an Administrative Order issued by U.S. EPA on February 17, 1988, which was then modified on March 29, 1988 and May 23, 1988. The work performed pursuant to the second order was conducted from May 1988 through March 1989, and included: removing, testing, and disposing of the contents of 125 additional drums; excavating and disposing of 5,400 tons of contaminated soil from the so-called "acid area," "discolored area," "ink sludge area," and "sludge ravine;" removing and disposing of the contents of 23 horizontal storage tanks; repairing chain link fence around the so-called "oil decanting pit," and "sludge ravine," installing a chain link fence around the "discolored area"; and backfilling the "acid pit" and "ink sludge area" with off-site borrow. Altogether, previous removal actions (excavations) have resulted in the removal of more than 13,000 tons of material from the site.

A Remedial Investigation (RI) and Feasibility Study (FS) for the WRR site were conducted and reports issued in June 1989, and January 1990, respectively. The Record of Decision (ROD) for the site was issued by the U.S. EPA on March 30, 1990.

In July 1990, a field investigation was conducted at the WRR site by Warzyn for the WRR Steering Committee. The purpose of the investigation was to provide preliminary information regarding selected areas of concern identified during the RI/FS and further identified in the draft U.S. EPA Statement of Work (SOW) for Remedial Design/Remedial Action (RD/RA), dated June 20, 1990. The results of this investigation were issued in a January 1992 report entitled Delineation of Extent of Selected Areas of Concern (Delineation Report) (Warzyn, 1992).

In accordance with the Consent Decree, a Work Plan for conducting the RD/RA was submitted to U.S. EPA. The Work Plan was approved with comment by U.S. EPA via letter dated June 11, 1992, which established November 9, 1992 as the due date of the Preliminary Design Report. Additional investigative field work (Additional Studies), as required by the SOW to support remedial design, was conducted by Warzyn from July through September 1992.

The results of the Additional Studies field investigation are presented in a technical memorandum entitled Results of Additional Studies in Support of Remedial Design (Tech Memo) (Warzyn, November 1992) as part of the Preliminary Design milestone submittal.

The Remedial Design was prepared by Warzyn from November 1992 through November 1993. The design process included submittals to the U.S. EPA at the Preliminary, Intermediate, and Final Design stages. The Remedial Design was approved by U.S. EPA (with comment) on January 5, 1994. The Remedial Design was issued for construction bids in March 1994. Roy F. Weston (Weston) was selected general contractor and began Remedial Action construction in June 1994.

Construction of the Remedial Design took place from June 1994 through January 1995. A Prefinal Inspection with U.S. EPA was conducted on January 27, 1995. The Final Inspection

with U.S EPA was conducted on May 18, 1995.

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REMEDIAL ACTION

Construction of the Remedial Design at the Wayne Reclamation & Recycling site included:

- Construction of a 150 gallons per minute (gpm) groundwater extraction system including construction of a 1,600 ft long soil-bentonite cut-off wall;
- Construction of a groundwater treatment system, including a 5,800 ft long force main to deliver treated groundwater to the Columbia City publically owned treatment works (POTW);
- Construction of a 2,400 standard cubic feed per minute (scfm) soil vapor extraction system and a 100 scfm air sparging system;
- Construction of an off-gas treatment system;
- Installation of instrumentation and control equipment to operate the treatment system; and
- Construction of a treatment building and waste solvent building to house treatment equipment.

Weston of Vernon Hills, Illinois was the General Contractor and was responsible for all construction activities at the site. Weston employed several subcontractors to perform various activities. These subcontractors and their activities were:

- Environmental Drilling and Contracting Inc. of Holland, Michigan provided drilling services;
- Reiff Construction Company of Columbia City, Indiana constructed the treatment building and waste solvent building;
- Young's Environmental of Flint, Michigan constructed the forcemain and installed the on-site underground piping;
- Hogland Electric of Fort Wayne, Indiana provided electrical services;

- Industrial Piping and Engineering of Fort Wayne, Indiana provided mechanical services; and

- Bentec Engineering of Minneapolis, Minnesota provided instrumentation and control services.

Montgomery Watson performed resident engineering services including submittal review, construction documentation, quality assurance testing, and photographic documentation. CH_2MHill of Milwaukee, Wisconsin and Detroit, Michigan provided oversight for the U.S. Environmental Protection Agency (U.S. EPA).

As-Built drawing (Drawings) for construction of the Remedial Design are included in Appendix F.

3.1 GROUNDWATER EXTRACTION SYSTEM

The groundwater extraction system consists of 10 groundwater recovery wells installed in three areas of the site as follows: three recovery wells in the Aboveground Storage Tank (AST) area, one recovery well in the monitoring well (MW) 7S area, and six recovery wells in the southeast (SE) area (Drawing 70210D13). The extraction system also employs the use of a soil-bentonite cut-off wall, constructed to reduce the pumping rate necessary to produce an upward vertical gradient to the groundwater flow in the SE area. Extracted groundwater is pumped to the on-site treatment building through high density polyethylene (HDPE) piping.

The 10 groundwater recovery wells were installed using a hollow stem auger drill rig. In general, the wells consist of 20 ft to 35 ft of 6-inch diameter stainless steel well screen attached to schedule 80 PVC well riser. Each well is finished with a shut off valve and sampling port. The tops of the recovery wells are flush with the surface and are protected inside 36-inch square manholes. Construction details are shown on Drawing 70210D22.

Extracted groundwater is pumped separately from each of the three areas of the site to the treatment building. Groundwater from RW1, RW2, and RW3 in the AST area is pumped to a common 4-inch diameter HDPE header via 2-inch diameter HDPE piping. The header routes extracted groundwater directly to the treatment building. Piping is double-walled throughout its entire length from RW1, RW2, and RW3 to the treatment building to minimize the possibility of leakage of contaminated groundwater into uncontaminated areas of the site. The HDPE piping was joined using butt-fusion technology.

Groundwater from RW4 in the MW7S area is pumped through 1-1/2 inch diameter HDPE piping to the treatment building. Piping from this extraction well is also double-walled along its entire length.

Groundwater from RW5, RW6, RW7, RW8, RW9, and RW10 is pumped to a common 2-inch diameter HDPE header via 1-inch diameter HDPE piping. The header routes the extracted

groundwater directly to the treatment building. Piping outside of the slurry wall is double-walled. Piping from RW5 is routed through the cut-off wall and then ties into the HDPE header.

A cut-off wall surrounds the SE area (Drawing 70210D36). The cut-off wall was constructed using a soil/bentonite slurry mixing method. This construction method permitted the excavation of a deep, narrow trench with near-vertical sidewalls. In general, the construction consisted of mixing a bentonite slurry with excavated soil. The bentonite slurry maintained the trench shape by holding back the adjacent soils. Once a portion of the excavation reached the desired depth (i.e., the underlying confining layer), the trench was backfilled with a soil/bentonite mixture. The bentonite slurry migrates into the soil adjacent to the trench, filling voids with bentonite and developing a bentonite filter cake on the trench sidewalls. This bentonite layer has a lower permeability than surrounding soils and is the outer component of the cut-off wall. The inner component is the soil/bentonite mixture. Backfilling occurred at a rate similar to the excavation rate in order to retain the bentonite slurry in the trench at a constant level (typically 2 to 3 ft below the top of the trench). The slurry level was maintained at a higher level than the groundwater to provide an outward gradient from the trench. This outward gradient enables the bentonite slurry to migrate into the soil, thereby creating the outer bentonite filter cake. A layer of compacted clay was placed over the top of the soil-bentonite cut-off wall to cap the wall and provide a protective layer. This cap extends above grade to serve as a perimeter berm to control surface water run-on and run-off. Tie-in of the cut-off wall to the aquitard is shown on Drawings 70210D18 and 70210D19. Results of geotechnical testing conducted during cut-off wall construction are provided as Appendix A.

Photographic documentation of construction of the groundwater extraction system wall is included in Appendix B.

3.2 GROUNDWATER TREATMENT SYSTEM

The groundwater treatment system removes VOCs from extracted groundwater prior to discharge to the Columbia City POTW for final treatment and eventual discharge to the Blue River (Drawing 70210D20). Groundwater extracted from the 10 groundwater recovery wells is initially pumped to an influent storage tank for solids settling and equalization. The untreated water is transferred from the influent tank through a bag filter to the top of the air stripping tower via an electric pump, operated by automatic level controls in the influent tank. Water flows by gravity downward through the tower packing, while air flows upward through the tower, stripping off the VOCs from the groundwater. The treated water drains from the tower into an effluent sump. The tower off-gas is routed to an off-gas treatment system prior to discharge to the atmosphere.

To reduce clogging problems caused by precipitation, biological growth, and/or scaling, an anti-scalant agent is metered into the influent storage tank. Additionally, the stripping tower is equipped with an auxiliary cleaning package consisting of a centrifugal pump and piping to circulate a cleaning solution through the tower.

Treated groundwater is pumped from the effluent sump to the Columbia City POTW via a dedicated 6-inch diameter force main. The force main exits the WRR treatment building and travels southerly, crossing beneath the Blue River to the south bank. From the south bank, the force main runs westerly approximately 1200 ft, paralleling an existing Columbia City force main. The force main turns south, crossing Chicago Street and beneath the Conrail Railroad to Collins Street where it turns westerly and continues to Whitley Street. The force main continues southward in the Whitley Street right of way to Radio Road. The force main turns westerly, crosses under River Street and the Blue River to the Columbia City POTW. The force main terminates into the POTW's grit chamber effluent sump such that bypass of the WRR site effluent cannot occur.

Standard bore & jack equipment was used to advance the force main beneath the Conrail Railroad. The presence of a high water table prohibited the use of bore & jack equipment for the two crossings beneath the Blue River. For these crossings, horizontal guided bore equipment was used to advance the force main. Plan and profile views of the constructed force main are shown on Drawings 89570-01 through 89570-07. Compaction results of the backfill material placed during construction of the force main are provided as Appendix C.

Photographic documentation of construction of the groundwater treatment system is provided in Appendix B.

3.3 SOIL VAPOR EXTRACTION SYSTEM

The soil vapor extraction (SVE) system consists of 41 SVE wells in the SE area and 15 SVE wells in the AST area (Drawing 70210D14). The wells are spaced to remediate areas of known contamination. Extracted soil vapors are routed to the on-site treatment building through HDPE piping.

The SVE wells were installed using a hollow stem auger drill rig to approximately 15 ft below grade; fully penetrating the vadose (unsaturated) zone. A porous area, used to extract vapors, was created in each well by backfilling the borehole to approximately 4 ft below grade with a coarse stone. During backfilling, a 4-inch diameter PVC well riser was placed into the coarse stone and extended to approximately 2 ft above grade. This PVC riser acts as the body of the SVE well. The top of the riser is fitted with a vacuum gauge.

The coarse stone is separated from the surficial soils by a clay seal. Service saddles connect the SVE wells to extraction piping. Each well is equipped with a shut-off valve and air velocity measurement access port. Construction details are shown on Drawing 70210D23.

In the SE area, the SVE wells are grouped together onto branch lines. Each well is connected via underground piping to one of six branch lines. Approximately six to eight SVE wells are attached to each branch line. As shown on Drawing 70210D14, the six branch lines are designated Branch A, Branch B, Branch C, Branch D, Branch E, and Branch F. All six branch lines connect to a one main trunk line that conveys extracted vapors back to the treatment

building. Operation of individual SVE wells is controlled manually by the shut-off valve located at each well. Operation of groups of SVE wells is controlled automatically by the control valves CV-SVE(A), CV-SVE(B), CV-SVE(C), CV-SVE(D), CV-SVE(E), and CV-SVE(F). These control valves are housed in 36-inch square manholes at the head of each branch line.

In the AST area, each SVE well is connected via underground piping to one of two branch lines that convey extracted vapors to the treatment building. As shown on Drawing 7021D14, these branch lines are designated as Branch G and Branch H. Operation of Branch G and Branch H is controlled by control valves CV-SVE(G) and CV-SVE(H) located in treatment building.

To achieve the most efficient operating conditions, the SVE system operates as a pulsed system, such that Branches A through H extract vapors at specific time intervals controlled by an adjustable timer in the computer system. This pulsing maintains a high influent VOC level in extracted soil vapors by optimizing equilibrium conditions and limits the creation of stagnant zones.

Photographic documentation of construction of the SVE system is included in Appendix B.

3.4 AIR SPARGING SYSTEM

The air sparging system consists of 40 sparging clusters in the SE area of the site (Drawing 70210D15). A cluster is located adjacent to each SVE well in the SE area. Compressed air is blown from the sparging air compressor in the treatment building to the sparging wells through HDPE piping.

Each sparging cluster consists of two air sparging wells (i.e., a shallow well and a deep well). The shallow/deep cluster is necessary to provide treatment of soils above and below the thin clay layer located at approximately 20 ft to 25 ft below grade. The shallow air sparging well is installed such that its screen is set at the top of the thin clay layer. The deeper air sparging well is set with a screen at the base of the upper aquifer. Each well is instrumented with an air flow rotameter, ball valve, and pressure gauge. Construction details are provided on Drawing 70210D23.

The sparge wells are manifolded and controlled in a similar fashion to the SVE system. Compressed air is pushed from the sparging air compressor in the treatment building to the southeast area through a 2-inch HDPE trunk line. As shown on Drawing 70210D15, branch lines Branch A, Branch B, Branch C, Branch D, Branch E, and Branch F branch off the trunk line to feed the air sparging wells. Operation of the branch lines is controlled by control valves CV-AS(A), CV-AS(B), CV-AS(C), CV-AS(D), CV-AS(E), and CV-AS(F).

These control valves are housed in the 36 inch square manholes located at the head of each branch line. The air sparging system is pulsed and operates concurrent with the associated SVE system.

Photographic documentation of construction of the air sparging system is included in Appendix B.

3.5 OFF-GAS TREATMENT SYSTEM

The off-gas treatment system removes volatile organic compounds (VOCs) from the off-gases of the air stripping tower and the SVE system prior to discharge to the atmosphere. The combined air stream of the air stripping tower and the SVE system is drawn through an air filter and moisture separator by two 100-horsepower, multistage, centrifugal blowers connected in parallel. After exiting the blowers, the untreated air stream is pushed through a heat exchanger to the Purus Adsorb Desorb Remediation Equipment (PADRE).

The PADRE system utilizes three synthetic resin adsorption beds to remove VOCs from the air stream. The PADRE system is designed to operate with two beds treating the VOC laden air stream and the third bed undergoing regeneration. The beds are automatically switched back and forth between adsorption and desorption cycles with an on-board control system. The desorption cycle utilizes a combination of temperature, pressure, and a carrier gas to regenerate the sorbent bed. During the desorption cycle, the organic contaminants trapped in the adsorbent material are removed, condensed, and transferred, as a liquid condensate, to a waste product storage tank. Treated vapors are discharged to the atmosphere through a 30-ft high stack. Flow diagrams for the off-gas treatment system are shown on As-Built drawings 70210D07, 70210D08 and 70210D10.

Photographic documentation of construction of the off-gas treatment system is included in Appendix B.

3.6 INSTRUMENTATION AND CONTROLS

The treatment system is monitored and controlled by a personal computer located in the treatment plant and can be accessed at a remote location by the Operations and Maintenance contractor. The computer-based system employs remote input/output modules communicating with the host computer. The system employs graphics to monitor and control the real-time processes and employs an object-based drawing editor and sub-routine library to permit point-and-click drawings of the plant systems. Each graphic object is tied to color changes, fill/unfill, high level/low level alarm, etc. to respond to changing applications, data or user input. The system employs routines for trending and plotting and alarm reporting.

A telephone link ties this control system to the Columbia City POTW facility to shut down the treatment plant when influent flow to the POTW is maximized. This shut down process operates on a time delay basis to prevent shut down due to temporary surges at the POTW facility, and the time delay is adjustable to optimize the control. When shut down does occur, the treatment effluent pumps stop and the treatment systems shut down.

The PADRE system, which operates on its own programmable logic controller (PLC), is continuously monitored by the treatment control system. Regeneration of the PADRE system is automatic and specific run time and delay time, as programmed in its controller, is maintained on plant startup after shut down.

The computer controls the interval and duration times of the SVE and air sparging system pulsing. These times are adjustable through the computer terminal. All valves associated with the SVE and sparging system are monitored and the open/close state is displayed on the computer graphics. Groundwater pumps are controlled by water levels through the computer. Well levels in extraction wells are continuously monitored and displayed. All motor control is through starters in the motor control center (MCC). The 120V panel board for building services is also integral to the MCC. Details of the MCC are shown on Drawing 70210D30.

Photographic documentation of the instrumentation and control system is provided in Appendix B.

3.7 TREATMENT BUILDING AND WASTE SOLVENT BUILDING

Treatment and process equipment is housed in an on-site treatment building. The treatment building is a pre-engineered metal structure measuring approximately 40 ft by 50 ft (Drawings 70210D33 and 70210D35). A separate building, the waste solvent building, houses a steel tank that stores the liquid condensate from the PADRE off-gas treatment equipment (Drawing 70210D34). All equipment and fixtures in the waste solvent building are explosion-proof in consideration of the nature of the condensate. Photographic documentation of construction of the treatment building and the waste solvent building is provided in Appendix B.

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METAL AREAS

The ROD required that metal contaminated soils determined to have the RCRA characteristic of toxicity be remediated by the use of either soil washing or immobilization/stabilization. It also required the Settling Defendants to conduct treatability studies to determine whether the technologies could be used to meet the performance standard. The SOW further required that metal-contaminated soil included the soil in the vicinity of soil boring SB-17 and SB-17A (the area west of the former police shooting range and north of the freshwater pond), underground tanks, diked vertical/horizontal tank areas, plus all soils identified and delineated as metals-contaminated soils.

The soil in the vicinity of SB-17 and SB-17A was investigated during the Delineation Study conducted by Warzyn in July 1990, and further investigated during the pre-design Additional Studies in August, 1992. Results of these investigations delineated the area impacted by detectable levels of metals (specifically lead) in soil borings near SB-17 and SB-17A. From these investigations it was determined that the soil was not leaching lead at levels above 5 mg/l, as determined by the TCLP analytical method, and therefore did not exhibit the RCRA characteristic of toxicity. Consequently, soil in the area of SB-17 and SB-17A did not require treatment to meet the performance standard set forth in the ROD.

The soil in the underground storage tank (UST) area and the aboveground storage tank (AST) area was investigated in the Delineation Study to determine if metal-contaminated soil was present in these areas. From this investigation it was determined that metal-contaminated soil was not present in either the UST or AST area. Therefore, soil washing or immobilization/stabilization of soils was not necessary.

Additional information regarding the delineation of metal-contaminated soil can be found in the following documents:

- Delineation of Extent of Selected Areas of Concern (Warzyn, January, 1992);
- Technical Memorandum, Results of Additional Studies in Support of Remedial Design (Warzyn, November, 1992); and
- Preliminary Design (Warzyn, November, 1992).

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MONITORING

Groundwater and air monitoring required by the ROD has been initiated. As outlined in *Section 11 - Startup*, air monitoring of the treatment system off-gas emissions has begun to document that air emissions do not exceed a 1.0×10^{-6} cumulative life time cancer risk. Site groundwater monitoring is addressed in the Operations, Maintenance, and Monitoring Plan (Montgomery Watson, August 1995).

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FENCING

To prevent access, an 8-ft high security fence with three strands of barbed wire was erected around the entire site (Drawing 70210D12). The fencing was installed in three phases (Phase I, Phase II, and Phase III). Phase I fencing began in the southwest corner of the site (along the Blue River) and extended northward to the northwest corner of the site then east to the main entrance of the site (i.e., the Ellsworth entrance). Phase II fencing began at the Ellsworth entrance and extended north to enclose the wetlands and east to enclose the adjacent landfill. The Phase II fencing terminated at the northeast corner of the landfill (along the Blue River). Phase III fencing follows the route of the Blue River along the eastern and southern boundaries of the site connecting the termination of the Phase II fencing to the beginning of the Phase I fencing. All fencing was completed by June 1995.

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REMOVAL ACTIVITIES

With the exception of tanker truck #23, removal of the abandoned USTs, ASTs, tanker trucks, and miscellaneous equipment was completed during the period from December 1993 to May 1994. Montgomery Watson was responsible for removal activities and employeed several subcontractors to assist with this task. Montgomery Watson's subcontractor's and their tasks included:

- Heritage Environmental Services, Inc. of Indianapolis, Indiana provided transport and disposal of waste material removed from the USTs, ASTs, and tanker trucks;

- Reidel Environmental Services, Inc. of Romulus, Michigan cleaned and rendered as scrap the USTs, ASTs, and tanker trucks; and

- Simmons Equipment Sales, Inc. of Columbia City, Indiana removed and disposed off as scrap metal the USTs, ASTs, tanker trucks, and miscellaneous equipment.

Wastes removed from the USTs, ASTs, and tanker trucks was disposed of at the Heritage disposal facility in Indianapolis, Indiana.

Tanker truck #23 contained approximately 1,500 gallons of viscous tar that presented unique disposal obstacles. Ultimately, the tank was cut away from the body of the tanker truck, emptied into a sealed roll-off box, and transported off-site for proper disposal. The tar material was disposed of at the Chemical Waste Management facility in Morrow, Georgia. The shell of the tank is at a Chemical Wast Management RCRA holding facility awaiting future disposal at the Chemical Wast Management facility in Emelle, Alabama.

A total of 5 USTs, 13 ASTS, 17 tanker trucks, and miscellaneous equipment were emptied, cleaned, and removed from the site.

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ABANDONED OFFICE BUILDING/MAINTENANCE GARAGE

To prevent the possiblity of future releases to the environment the waste material in the abandoned office building/maintenance garage was removed and properly disposed. The waste material included: waste oil, gear lubricant, paint, chassis lube, and grease. The waste material was removed from the abandoned building and transported to the Treatment One disposal facility in Houston, Texas in June 1995. Following the removal of the waste material from the abandoned building, the building was boarded shut to prohibit access.

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MODIFICATIONS

Twenty-one modifications were made to the Remedial Design during construction. These modifications were documented using Change Order forms and Field Order forms, as appropriate. A Change Order form was used to document an addition, deletion, or revision in the work involving a change in contract price or schedule. A Field Order form was used to document a change in the work not involving a change in price or schedule. Copies of all Change Orders and Field Orders were provided to U.S. EPA (via CH_2M Hill oversight personnel) during construction along with a request for written approval or comments. U.S. EPA elected to not provide written approval or comments concerning Change Orders or Field Orders. Prior to construction, during contract negotiations, the configuration of the SVE wells was changed to Weston's patented configuration. Drawing 70210D23 shows the SVE well configuration.

Modifications to the Remedial Design included:

1. Change Order #1 - Monetary change only, therefore details not provided.

2. Change Order #2 - Seven additional soil vapor extraction (SVE) wells were added in the AST area to address contamination discovered during underground storage tank removal.

3. Change Order #3 - The force main piping beneath State Route #9 was installed using horizontal guided bore equipment in place of open cutting.

4. Change Order #4 - Additional openings were added to process tanks T1 and T2 to allow proper finishing and inspection. The tank schedule on Drawing 70210D25 reflects these changes.

5. Change Order #5 - Monetary change only, therefore details not provided.

6. Change Order #6 - At the request of Columbia City, an additional 1 inch of bituminous pavement was added to the roadways receiving resurfacing as a result of force main construction.

7. Change Order #7 - The site safety switch was upgraded from 600 amps to 800 amps.

8. Change Order #8 - At the request of Columbia City, the tap in of the force main piping at the POTW's grit chamber was made over the top in place of through the side. This change allows POTW personnel to quickly determine the status of the WRR treatment system.

9. Field Order #1 - The gravel access road leading to the treatment building was relocated approximately 20 ft north to minimize the amount of clearing and grubbing.

10. Field Order #2 - At the request of the air release valve manufacturer, the slope of some sections of the force main was modified.

11. Field Order #3 - The elevation of the east decontamination pad was raised to avoid the possibility of run on from the gravel access road.

12. Field Order #4 - At the contractor's request, the alignment of the cut-off wall was modified to facilitate excavation along the Blue River. The location of the cut-off wall is shown on Drawing 70210D12.

13. Field Order #5 - The exterior surface preparation and coating of steel tanks T1 and T5 were revised to reduce the possibility of pinhole leaks.

14. Field Order #6 - At the contractor's request, plastic fittings were allowed on the sanitary discharge line from the treatment building restroom to the septic tank.

15. Field Order #7 - At the contractor's request, a corrugated polyethylene tubes were allowed in place of the corrugated metal tubes in construction of the decontamination pads.

16. Field Order #8 - The slope of some sections of the force main was modified to correct for an error in the design drawings.

17. Field Order #9 - The air release valve detail was modified to divert blowoff away from the valve.

18. Field Order #10 - The depth of several SVE wells was clarified as a result of the switch from the designed SVE well configuration to Weston's patented SVE well configuration.

19. Field Order #11 - At the contractor's request, the technique for installation of the force main piping beneath the Blue River was changed from bore & jack to horizontal guided bore.

20. Field Order #12 - At the contractor's request, the location of RW5 was modified to allow access by a drill rig.

21. Field Order #13 - Specifications were provided to the contractor for replacement of wells damaged during construction.

Copies of the above referenced Change Orders and Field Orders are provided in Appendix D.

F:\WRR\99N.WPD

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PREFINAL INSPECTION PUNCH LIST ITEMS

The Prefinal Inspection for the Wayne Reclamation & Recycling site was held on January 27, 1995 and was attended by representatives of U.S. EPA, Roy F. Weston, Montgomery Watson, CH_2M Hill, Masco, and Purus (manufacturer of off-gas treatment equipment). The Prefinal Inspection identified several construction items that required correction prior to the Final Inspection. Table 1 summarizes the resolution of the Prefnal Inspection punch list items.

F:\WRR\99K.WPD

11

SYSTEM START-UP

Start-up of the treatment system at the WRR site was conducted from February 1995 through June 1995. Start-up and shake down of the groundwater and off-gas treatment equipment was conducted using potable water and ambient air. Once it was determined that the treatment equipment was operating correctly, the groundwater extraction system, the soil vapor extraction system, and the air sparging system were phased into operation. Treatment system sampling during the start-up phase was conducted under the Draft Operations & Maintenance Plan (Warzyn, November 19, 1993) as supplemented by Montgomery Watson's February 7, 1995 letter to the U.S. EPA. Analytical results from the start-up sampling events are provided as Appendix E.

Analysis of the analytical results indicates that although the treatment system is effective in removing VOCs from both the groundwater and the off-gas streams the treatment system may require further optimization of treatment efficiencies. Discussions with equipment vendors have been initiated to optimize treatment equipment performance. Additionally, work is being done to standardize operating and sampling procedures that will facilitate future evaluation of treatment system performance. Future sampling will be submitted in accordance with the final Operations, Maintenance, and Monitoring Plan.

F:\WRR\99L.WPD

12

CERTIFICATION

Based on field observations made during construction, photographic documentation, and geotechnical testing results, I certify the Remedial Design has been constructed consistent with the Technical Specifications, Remedial Design drawings, and approved Change Orders and Field Orders. Based upon observations made during system start-up and analytical testing results, the system is effectively removing and treating volatile organic compounds from site soil and groundwater.

Joseph D. Adams Jr., P.E.
Project Coordinator

F:\WRR\99M.WPD

TABLE 1
Resolution of Prefinal Inspection
Punch List Items
Wayne Reclamation and Recycling
Columbia City, Indiana

Punch List Item	Resolution
1. Install cover on septic tank.	Complete
2. Complete grading and seeding.	Complete
3. Check all pressure probes for caps.	Complete
4. Backfill data cable trench in SE area.	Complete
5. Backfill around groundwater recovery wells RW5, RW7, RW8, RW9, and RW10.	Complete
6. Close sample taps in groundwater recovery wells RW9 and RW10.	Complete
7. Attach riser stem to shut off valve on groundwater discharge line from RW7.	Complete
8. Install a 3-inch cap on the ball valve access ports to SVE wells SVE5, SVE19, and SVE25.	Complete
9. Install a 6-inch cap on air velocity measurement port to SVE wells SVE5, SVE19, SVE24, and SVE25.	Complete
10. Backfill and level pad around SVE wells SVE17 and SVE19.	Complete
11. Complete aboveground construction of SVE/AS wells #20 including piping, backfill, caps, etc.	Complete
12. Complete installation of vacuum gauges on remainder of SVE wells in SE area and all SVE wells in AST/UST area.	Complete
13. Open ball valves to SVE wells SVE20, SVE22, SVE39, SVE41, SVE42, SVE45, SVE50, and SVE55.	Complete
14. Remove soil from ball valve access ports to SVE wells SVE14, SVE20, SVE27, SVE39, SVE22, SVE40S, SVE33, SVE45, SVE55, and SVE50.	Complete
15. Check air velocity measurement ports near control panel boxes in SE area for protective 6-inch sleeve and cap.	Complete
16. Align the protective 6-inch sleeve surrounding the 1-inch air velocity measurement port to following SVE wells: SVE1, SVE9, SVE14, SVE16, SVE18, SVE26, and SVE28. Check access ports to SVE2, SVE20, and SVE27.	Complete
17. Construct warning signs at crossing of force main beneath railroad track.	Incomplete*
18. Receive and place anti-scalent drums.	Complete
19. Install by-passes around flow meters FM-4 and FM-5.	Complete
20. Install sinks.	Complete
21. Install water heater.	Complete
22. Label piping.	Complete
23. Install lightning protection system.	Complete
24. Correct fault air release valve(s) at air release manhole No. 3.	Complete
25. Remove Tank Track No. 23 from AST/UST Area.	Complete
26. Move trees and stumps to central area of site.	Complete

* Construction of force main warning signs to be completed by O & M contractor.

FIGURES

GENERAL LEGEND

- MW68 — MONITORING WELL LOCATION AND NUMBER
- TREE LINE
- WATER LINE
- FENCE
- UNPAVED ROAD
- × 830.5 — EXISTING SPOT ELEVATION

GENERAL NOTES

1. BASE MAP DEVELOPED FROM AERIAL SURVEY PERFORMED BY ABRAMS AERIAL CORPORATION, LANSING, MICHIGAN. DRAWING NO. 24537, DATED 05-28-92 AND SITE SURVEY CONDUCTED BY AYRES, LEWIS, NORRIS, AND MAY INC., ANN ARBOR, MICHIGAN, SEPTEMBER 1992.
2. TOPOGRAPHIC CONTOUR INTERVAL IS 1 FOOT.
3. ELEVATIONS BASED ON COLUMBIA CITY BENCHMARK #24-CASC-14.
4. AREAS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY AND ARE NOT INTENDED TO DELINEATE EXTENT.

This drawing has been reduced to approximately one half the original size

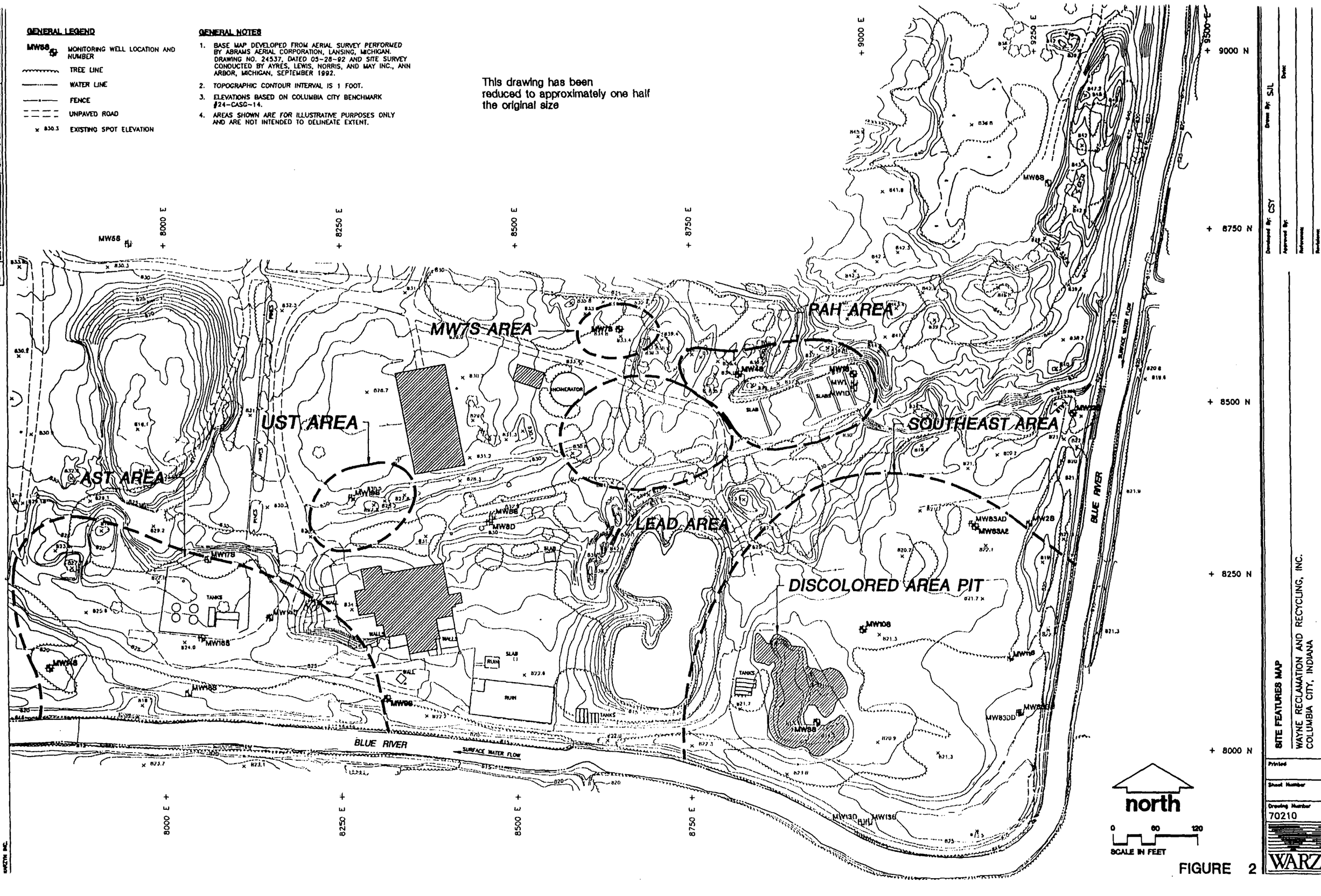


FIGURE 2

SITE FEATURES MAP

WAYNE RECLAMATION AND RECYCLING, INC.
COLUMBIA CITY, INDIANA

Drawn By: SJL
Developed By: CSY
Approved By:
Reference:
Revisions:
Printed
Sheet Number
Drawing Number 70210 D3

WARZYN

A

GEOTECHNICAL TESTING RESULTS

Table 1

Summary of Cut-Off Wall Geotechnical Testing
Wayne Reclamation and Recycling
Columbia City, Indiana

Sample I.D.	Coefficient of Permeability (cm/s)	P_{200} Content	USCS Classification
Backfill Material			
Backfill #1 (Sta. 1+00)	2.90E-08	39.10%	SC
Backfill #2 (Sta. 15+50)	1.60E-08	43.10%	SC
Backfill #3 (Sta. 14+00)	1.10E-08	49.00%	SC
Backfill #4 (Sta. 11+50)	1.10E-08	49.70%	SC
Backfill #5 (Sta. 9+50)	N/A	38.30%	N/A
Backfill #6 (Sta. 9+00)	5.80E-09	32.50%	SC
Backfill #7 (Sta. 6+50)	1.30E-08	37.40%	SC-SM
Backfill #8 (Sta. 4+00)	9.00E-09	39.30%	SC-SM
Backfill #9 (Sta. 2+00)	1.90E-08	31.30%	SM
Tie-In Material			
Tie-In #1 (Sta. 15+60)	N/A	N/A	SM
Tie-In #2 (Sta.13+00)	N/A	N/A	SM
Tie-In #3 (Sta. 10+50)	N/A	N/A	CL-ML
Tie-In #4 (Sta. 8+00)	N/A	N/A	ML
Tie-In #5 (Sta. 5+50)	N/A	N/A	SC-SM
Tie-In #6 (Sta. 2+90)	N/A	N/A	SM
Tie-In #7 (Sta. 1+10)	N/A	N/A	CL

Notes:
1. N/A = Not Analyzed

Table 2

Summary of Clay Cap Geotechnical Testing
Wayne Reclamation and Recycling
Columbia City, Indiana

Sample I.D.	Coefficient of Permeability (cm/s)	USCS Classification
Station 0+00	6.60E-08	CL
Station 4+00	5.40E-08	CL
Station 9+00	7.10E-08	CL
Station 11+50	2.60E-08	CL

Notes:
1. N/A = Not Analyzed

A1

BACKFILL MATERIAL SAMPLES

WARZYN

FLEXIBLE WALL FALLING HEAD PERMEABILITY TEST RESULTS

PROJECT: WAYNE RECLAMATION & RECYCLING

LOCATION: Columbia City, Indiana

Job No. 25014610/355

Date 9/12/94

Sheet 1 of 1

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

SAMPLE	Backfill Material #1:		STA 1+00			
DEPTH	---					
SOIL DESCRIPTION (Visual)	Gray Clayey Fine-Coarse SAND, Little Gravel (SC)					
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
SAMPLE DIAMETER (cm)	5.08	4.90				
SAMPLE AREA, A (cm^2)	20.27	18.85				
SAMPLE LENGTH, L (cm)	5.08	4.90				
MOISTURE CONTENT, %	23.1	17.3				
DRY DENSITY (PCF)	110.9	119.4				
MAXIMUM GRADIENT	43.0	43.0				
NET CONFINING PRESSURE (PSI)	5.0	5.0				

COEFFICIENT OF PERMEABILITY, k (cm/sec)

RUN NO. 1	3.1×10^{-8}		
2	3.0×10^{-8}		
3	2.7×10^{-8}		
4	2.7×10^{-8}		
5	2.7×10^{-8}		
6	3.2×10^{-8}		
7	3.0×10^{-8}		
8	3.1×10^{-8}		
9	3.0×10^{-8}		
10	3.1×10^{-8}		
AVERAGE k, (cm/sec)	2.9×10^{-8}		

FORMULA:

$$K = \frac{2.3\ a\ L}{At} \log 10 \frac{h_o}{h_1} \Big/ 2$$

Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

B parameter for each test was greater than 95 % prior to performing permeability tests.
P200 Content = 39.1%

Tested by CLS

Checked by DHN

WARZYN

FLEXIBLE WALL FALLING HEAD PERMEABILITY TEST RESULTS

PROJECT: WAYNE RECLAMATION & RECYCLING

LOCATION: Columbia City, Indiana

Job No. 3014610/355
Date 9/12/94
Sheet 1 of 1

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

SAMPLE	Backfill Material #2;		STA 15+50			
DEPTH	---					
SOIL DESCRIPTION (Visual)	Gray Clayey Fine-Coarse SAND, Little Gravel (SC)					
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
SAMPLE DIAMETER (cm)	5.08	4.68				
SAMPLE AREA, A (cm^2)	20.27	17.23				
SAMPLE LENGTH, L (cm)	5.08	4.70				
MOISTURE CONTENT, %	23.1	19.4				
DRY DENSITY (PCF)	114.6	141.3				
MAXIMUM GRADIENT	44.8	44.8				
NET CONFINING PRESSURE (PSI)	5.0	5.0				

COEFFICIENT OF PERMEABILITY, k (cm/sec)

RUN NO. 1	1.6×10^{-8}		
2	1.7×10^{-8}		
3	1.6×10^{-8}		
4	1.7×10^{-8}		
5	1.5×10^{-8}		
6	1.5×10^{-8}		
7	1.5×10^{-8}		
8	1.4×10^{-8}		
9	1.7×10^{-8}		
10			
AVERAGE k, (cm/sec)	1.6×10^{-8}		

FORMULA:

$$K = \frac{\frac{2.3\ a\ L}{At} \log 10 \frac{h_o}{h_1}}{2}$$

Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

B parameter for each test was greater than 95 % prior to performing permeability tests.

P200 Content = 43.1 %

Tested by CLS

Checked by DJM

WARZYN

FLEXIBLE WALL FALLING HEAD PERMEABILITY TEST RESULTS

PROJECT: WAYNE RECLAMATION & RECYCLING

LOCATION: Columbia City, Indiana

Job No. 25014610
Date 10/17/94
Sheet 1 of 1

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

SAMPLE	Backfill Material #3					
LOCATION	STA. 14+00					
SOIL DESCRIPTION (Visual)	Gray-Brown Clayey F-C SAND, Little Gravel (SC)					
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
SAMPLE DIAMETER (cm)	5.08	4.95				
SAMPLE AREA, A (cm^2)	20.27	19.26				
SAMPLE LENGTH, L (cm)	5.08	4.95				
MOISTURE CONTENT, %	25.6	18.8				
DRY DENSITY (PCF)	103.8	112.2				
MAXIMUM GRADIENT	42.5	42.5				
NET CONFINING PRESSURE (PSI)	5.0	5.0				

COEFFICIENT OF PERMEABILITY, k (cm/sec)

RUN NO. 1	1.1×10^{-8}		
2	1.1×10^{-8}		
3	1.1×10^{-8}		
4	1.1×10^{-8}		
5	9.3×10^{-9}		
6			
7			
8			
9			
10			
AVERAGE k, (cm/sec)	1.1×10^{-8}		

FORMULA:

$$K = \frac{\frac{2.3\ a\ L}{At} \log 10 \frac{ho}{hf}}{2}$$

Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

B parameter for each test was greater than 95% prior to performing permeability test

P200 Content: 49.0 %

Tested by CLS

Checked by CLS / DLR

WARZYN

FLEXIBLE WALL FALLING HEAD PERMEABILITY TEST RESULTS

PROJECT: WAYNE RECLAMATION & RECYCLING

LOCATION: Columbia City, Indiana

Job No. 25014610/355

Date 10/5/94

Sheet 1 of 1

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

SAMPLE	Backfill Material #4					
LOCATION	STA 11+50					
SOIL DESCRIPTION (Visual)	Gray-Brown Clayey SAND, Little Gravel (SC)					
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
SAMPLE DIAMETER (cm)	5.08	5.08				
SAMPLE AREA, A (cm^2)	20.27	20.27				
SAMPLE LENGTH, L (cm)	5.08	5.08				
MOISTURE CONTENT, %	24.6	18.6				
DRY DENSITY (PCF)	108.9	107.3				
MAXIMUM GRADIENT	41.5	41.5				
NET CONFINING PRESSURE (PSI)	5.0	5.0				

COEFFICIENT OF PERMEABILITY, k (cm/sec)

RUN NO. 1	1.4×10^{-8}		
2	7.7×10^{-9}		
3	1.1×10^{-8}		
4.	1.2×10^{-8}		
5	1.2×10^{-8}		
6	1.1×10^{-8}		
7			
8			
9			
10			
AVERAGE k, (cm/sec)	1.1×10^{-8}		

FORMULA:

$$K = \frac{2.3\, a\, L}{At} \log 10 \frac{ho}{h1} \Big/ 2$$

Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

B parameter for each test was greater than 95 % prior to performing permeability tests

P200 Content: 49.7 %

Tested by CLS

Checked by CLS/DKM

WARZYN

FLEXIBLE WALL FALLING HEAD PERMEABILITY TEST RESULTS

PROJECT: WAYNE RECLAMATION & RECYCLING

LOCATION: Columbia City, Indiana

Job No. 25014610/355

Date 9/12/94

Sheet 1 of 1

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

SAMPLE	Backfill Material #6;	STA 9+00			
DEPTH	---				
SOIL DESCRIPTION (Visual)	Gray Clayey Fine-Coarse SAND, Little Gravel (SC)				

	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
SAMPLE DIAMETER (cm)	5.08	4.85				
SAMPLE AREA, A (cm^2)	20.27	18.44				
SAMPLE LENGTH, L (cm)	5.08	4.85				
MOISTURE CONTENT, %	26.0	19.1				
DRY DENSITY (PCF)	104.2	119.7				
MAXIMUM GRADIENT	43.4	43.4				
NET CONFINING PRESSURE (PSI)	5.0	5.0				

COEFFICIENT OF PERMEABILITY, k (cm/sec)

RUN NO. 1	5.9×10^{-9}		
2	3.1×10^{-9}		
3	6.0×10^{-9}		
4	7.2×10^{-9}		
5	6.6×10^{-9}		
6	6.0×10^{-9}		
7	5.9×10^{-9}		
8	5.6×10^{-9}		
9	5.7×10^{-9}		
10			
AVERAGE k, (cm/sec)	5.8×10^{-9}		

FORMULA:

$$K = \frac{\frac{2.3\ a\ L}{At} \log 10 \frac{ho}{h1}}{2}$$

Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

B parameter for each test was greater than 95 % prior to performing permeability tests

P200 Content = 32.5 %

Tested by CLS

Checked by DHM

WARZYN

FLEXIBLE WALL FALLING HEAD PERMEABILITY TEST RESULTS

PROJECT: WAYNE RECLAMATION & RECYCLING

LOCATION: Columbia City, Indiana

Job No. 25014610/355

Date 11/7/94

Sheet 1 of 1

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

SAMPLE	Backfill #7					
LOCATION	STA. 6+50					
SOIL DESCRIPTION (Visual)	Gray Silty Clayey Fine-Medium SAND, Trace Gravel (SC-SM)					
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
SAMPLE DIAMETER (cm)	5.08	4.54				
SAMPLE AREA, A (cm^2)	20.27	16.22				
SAMPLE LENGTH, L (cm)	5.08	4.57				
MOISTURE CONTENT, %	27.8	22.5				
DRY DENSITY (PCF)	98.8	137.0				
MAXIMUM GRADIENT	46.1	46.1				
NET CONFINING PRESSURE (PSI)	5.0	5.0				

COEFFICIENT OF PERMEABILITY, k (cm/sec)

RUN NO. 1	1.3×10^{-8}		
2	1.4×10^{-8}		
3	1.3×10^{-8}		
4	1.4×10^{-8}		
5			
6			
7			
8			
9			
10			
AVERAGE k, (cm/sec)	1.3×10^{-8}		

FORMULA:

$$K = \frac{\frac{2.3\ a\ L}{At} \cdot \log 10 \frac{h_o}{h_1}}{2}$$

Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

B parameter for each test was greater than 95 % prior to performing permeability tests.

P200 Content: 37.4 %

Tested by CLS

Checked by CLS / DLM

WARZYN

FLEXIBLE WALL FALLING HEAD PERMEABILITY TEST RESULTS

PROJECT: WAYNE RECLAMATION & RECYCLING

LOCATION: Columbia City, Indiana

Job No. 25014610/355
Date 11/23/94
Sheet 1 of 1

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

SAMPLE	Backfill Material #8					
LOCATION	STA. 4+00					
SOIL DESCRIPTION (Visual)	Gray Silty Clayey SAND, Trace Gravel (SC-SM)					
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
SAMPLE DIAMETER (cm)	5.08	5.08				
SAMPLE AREA, A (cm^2)	20.27	20.27				
SAMPLE LENGTH, L (cm)	5.08	4.39				
MOISTURE CONTENT, %	20.1	18.4				
DRY DENSITY (PCF)	106.3	116.4				
MAXIMUM GRADIENT	47.9	47.9				
NET CONFINING PRESSURE (PSI)	5.0	5.0				

COEFFICIENT OF PERMEABILITY, k (cm/sec)

RUN NO. 1	7.1×10^{-9}		
2	1.0×10^{-8}		
3	9.4×10^{-9}		
4	9.4×10^{-9}		
5			
6			
7			
8			
9			
10			
AVERAGE k, (cm/sec)	9.0×10^{-9}		

FORMULA:

$$K = \frac{\frac{2.3\ a\ L}{At}\ \log 10\ \frac{h_o}{h_1}}{2}$$

Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

B parameter for each test was greater than 95 % prior to performing permeability tests

P200 Content: 39.3 %

Tested by CLS

Checked by CLS / DJM

WARZYN

FLEXIBLE WALL FALLING HEAD PERMEABILITY TEST RESULTS

PROJECT: WAYNE RECLAMATION & RECYCLING

LOCATION: Columbia City, Indiana

Job No. 25014610
Date 2/8/95
Sheet 1 of 1

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

SAMPLE	Backfill Material #9					
LOCATION	STA. 2+00					
SOIL DESCRIPTION (Visual)	Gray Fine-Coarse SAND, Some Gravel, Silt, and Clay (SM).					
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
SAMPLE DIAMETER (cm)	5.08	5.08				
SAMPLE AREA, A (cm^2)	20.27	20.27				
SAMPLE LENGTH, L (cm)	5.08	5.08				
MOISTURE CONTENT, %	17.1	17.1				
DRY DENSITY (PCF)	124.1	124.1				
MAXIMUM GRADIENT	41.5	41.5				
NET CONFINING PRESSURE (PSI)	5.0	5.0				

COEFFICIENT OF PERMEABILITY, k (cm/sec)

RUN NO. 1	2.1×10^{-8}		
2	1.9×10^{-8}		
3	1.8×10^{-8}		
4	1.8×10^{-8}		
5			
6			
7			
8			
9			
10			
AVERAGE k, (cm/sec)	1.90×10^{-8}		

FORMULA:

$$K = \frac{\frac{2.3\ a\ L}{At}\ \log 10\ \frac{h_o}{h_1}}{2}$$

Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

B parameter for each test was greater than 95 % prior to performing permeability tests.

P200 Content = 31.3 %

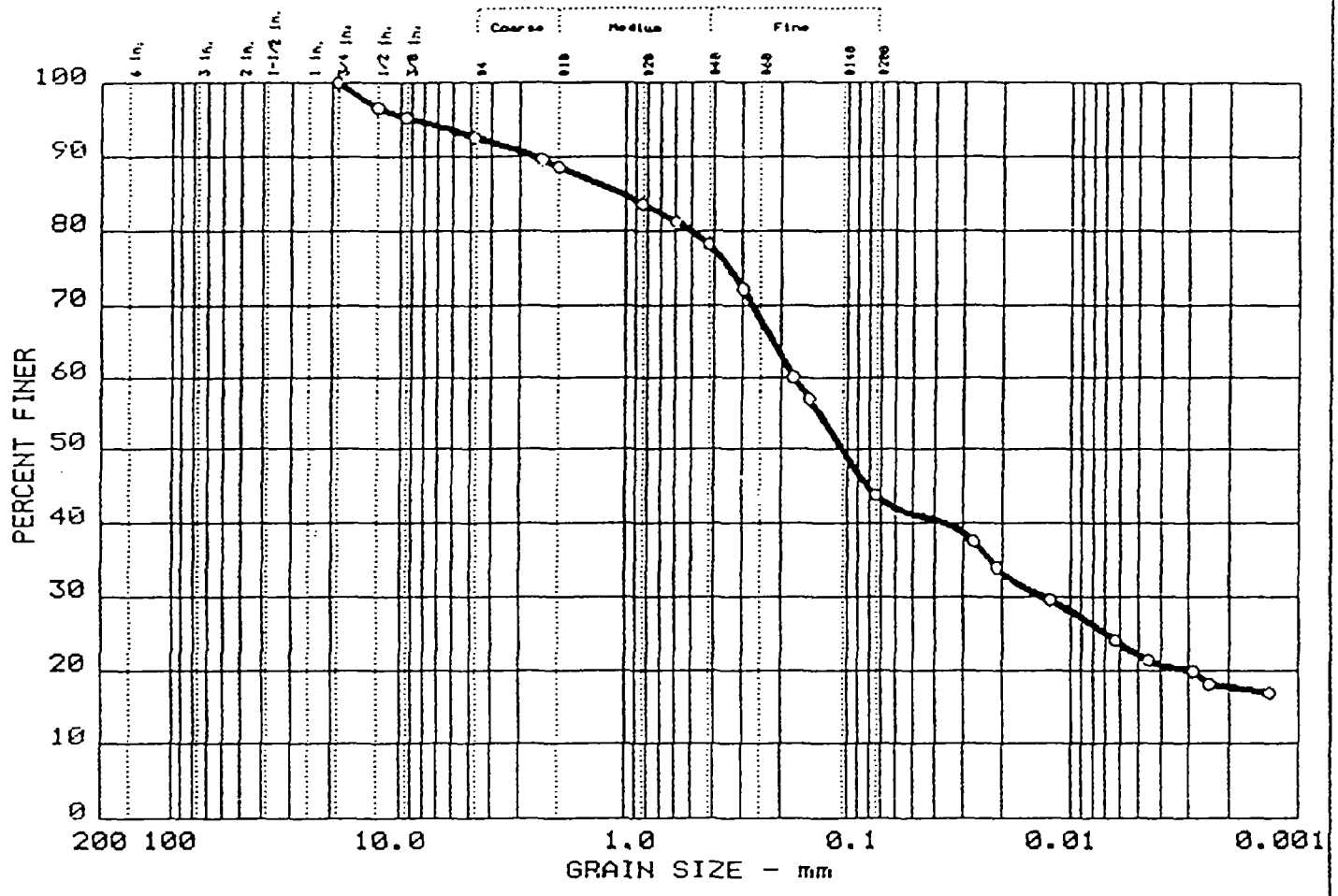
Tested by CLS

Checked by CLS/DMM

A2

TIE-IN MATERIAL SAMPLES

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	7.4	48.8	21.9	21.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	12	2	1.05	0.17	0.11	0.013				

MATERIAL DESCRIPTION	USCS
○ Gray Silty Fine-Coarse SAND, Some Clay, Little Gravel	SM

Project No.: 25014610/355
Project: WAYNE RECLAMATION & RECYCLING
○ Sample: Tie-in Material - Sample #1 @ STA 15+60

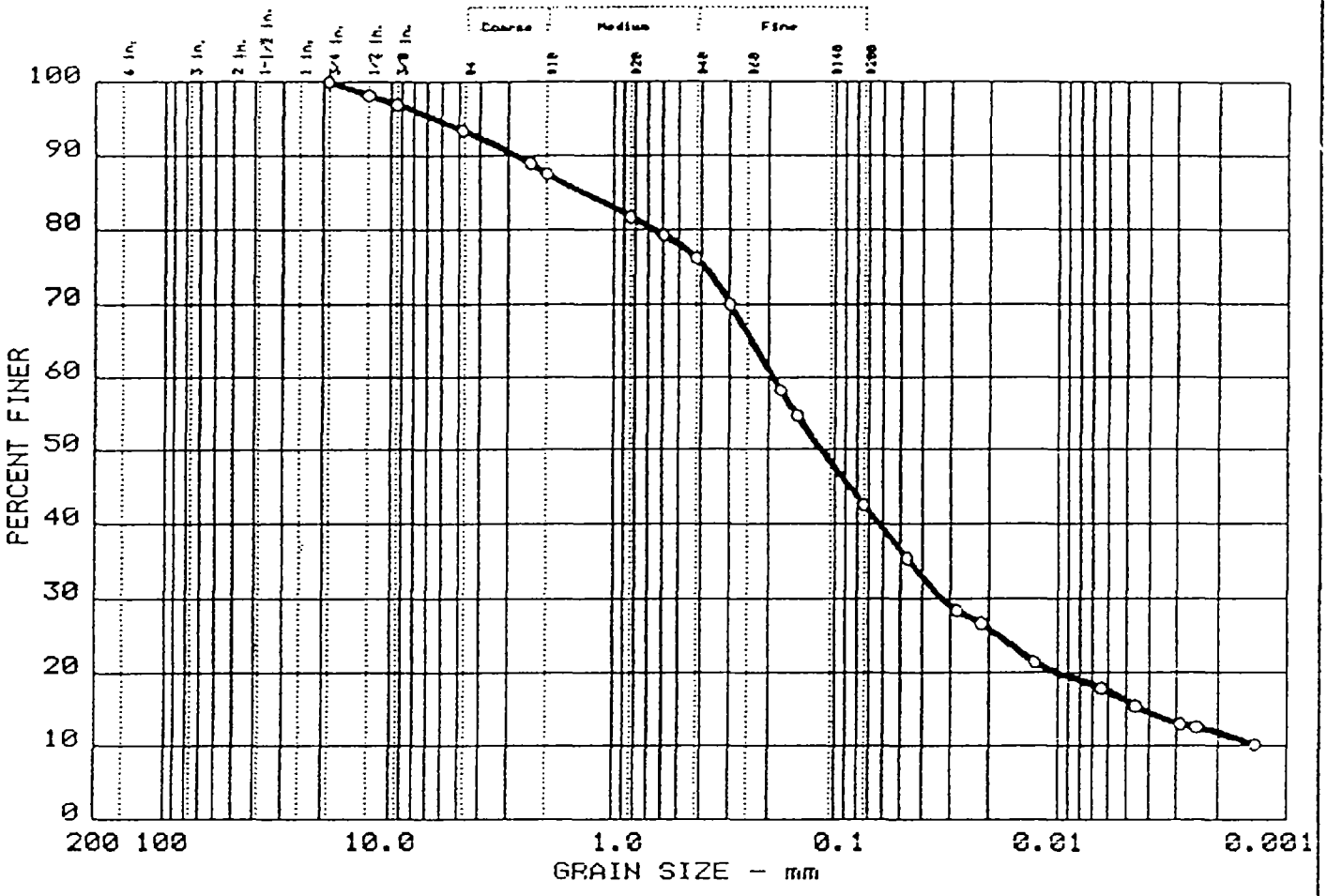
Date: September 12, 1994

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN, INC.

Remarks:
TESTED BY CLS/JL/BM
CHECKED BY CLS
APPROVED BY DML

Sheet No.

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	6.6	50.9	26.4	16.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	13	3	1.40	0.19	0.12	0.032	0.0043			

MATERIAL DESCRIPTION	USCS
○ Gray Silty Fine-Coarse SAND, Some Clay, Little Gravel	SM

Project No.: 25014610/355
Project: WAYNE RECLAMATION & RECYCLING
○ Sample: Tie-in Material - Sample #2 @ STA 13+00

Date: September 12, 1994

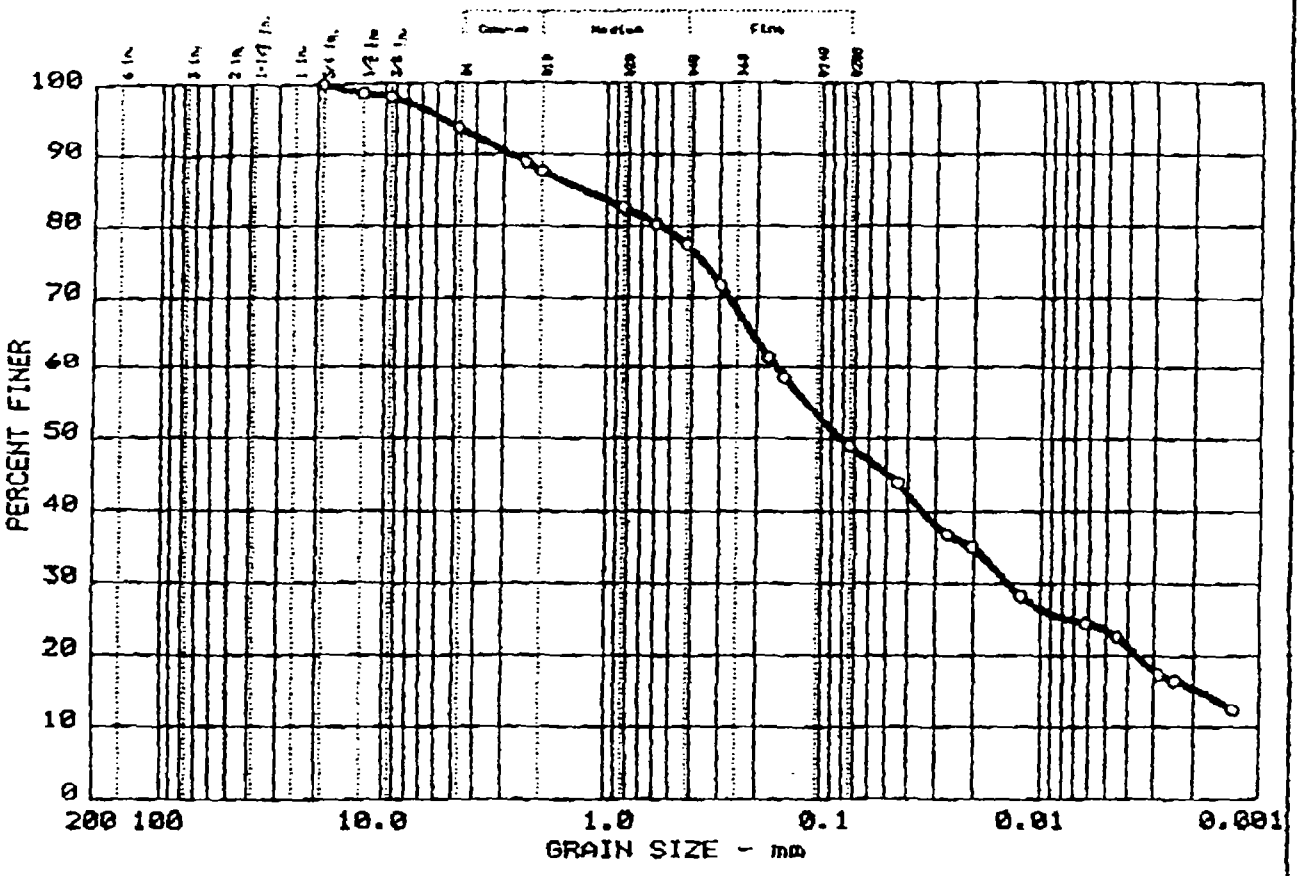
GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:
TESTED BY CLS/EW/BM
CHECKED BY CLS
APPROVED BY RJM

Sheet No.

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	0.0	6.2	44.7	25.5	23.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o	14	4	1.26	0.16	0.08	0.014	0.0019			

MATERIAL DESCRIPTION	USCS
o Gray-Brown Sandy Silty CLAY, Little Gravel	CL-ML

Project No.: 25014610
Project: WAYNE RECLAMATION & RECYCLING
o Sample: Tie-In Material #3 @ STA. 10+50

Date: October 17, 1994

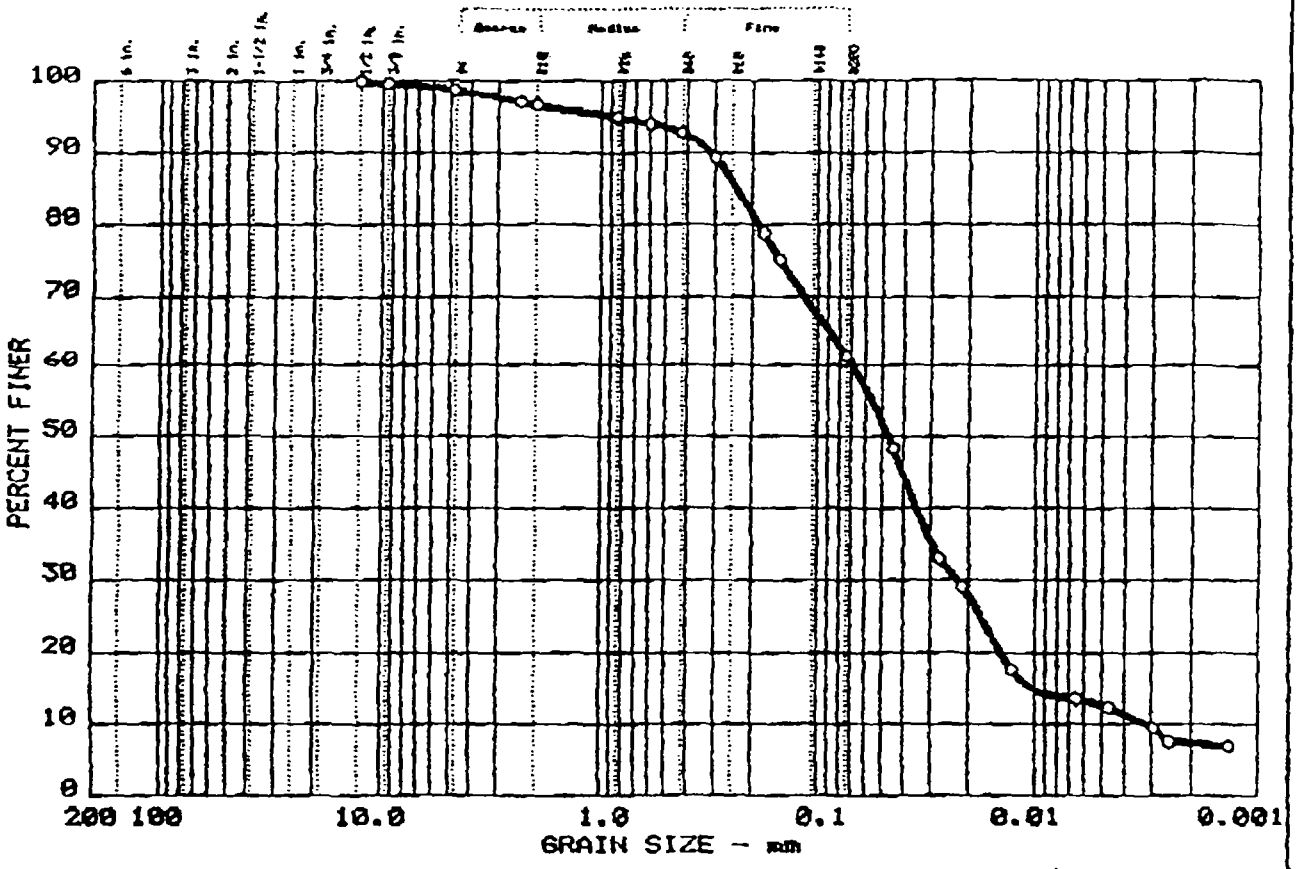
GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:
TESTED BY CLS/JL/BM/ES
CHECKED BY CLS
APPROVED BY DVR

Sheet No.

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
O	0.0	1.3	37.2	48.8	12.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
O	14	2	0.23		0.05	0.022	0.0101	0.0031	2.34	21.9

MATERIAL DESCRIPTION	USCS
O Gray-Brown Sandy SILT, Some Clay, Trace Gravel	ML

Project No.: 25014610
Project: WAYNE RECLAMATION & RECYCLING
O Sample: Tie-In Material #4 @ STA. 8+00

Date: October 17, 1994

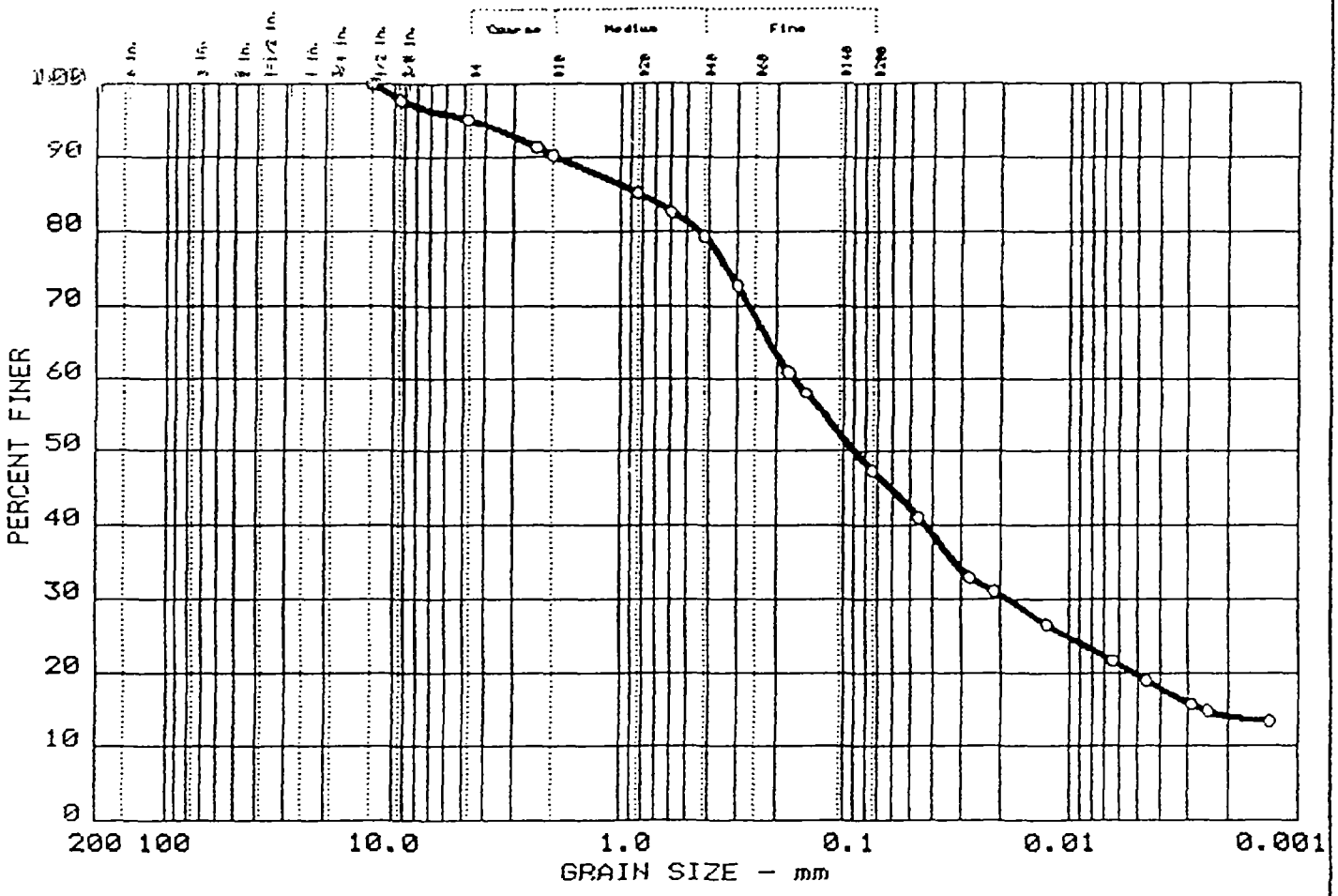
GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:
TESTED BY CLS/JL/BM/ES
CHECKED BY CLS
APPROVED BY DMM

Sheet No.

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	4.8	47.8	27.8	19.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	18	6	0.82	0.17	0.09	0.018	0.0025			

MATERIAL DESCRIPTION	USCS
○ Gray Silty, Clayey Fine-Coarse SAND, Trace Gravel	SC-SM

Project No.: 25014610/355
Project: WAYNE RECLAMATION & RECYCLING
○ Sample: Tie-in Material - Sample #5 @ STA 5+50

Date: September 12, 1994

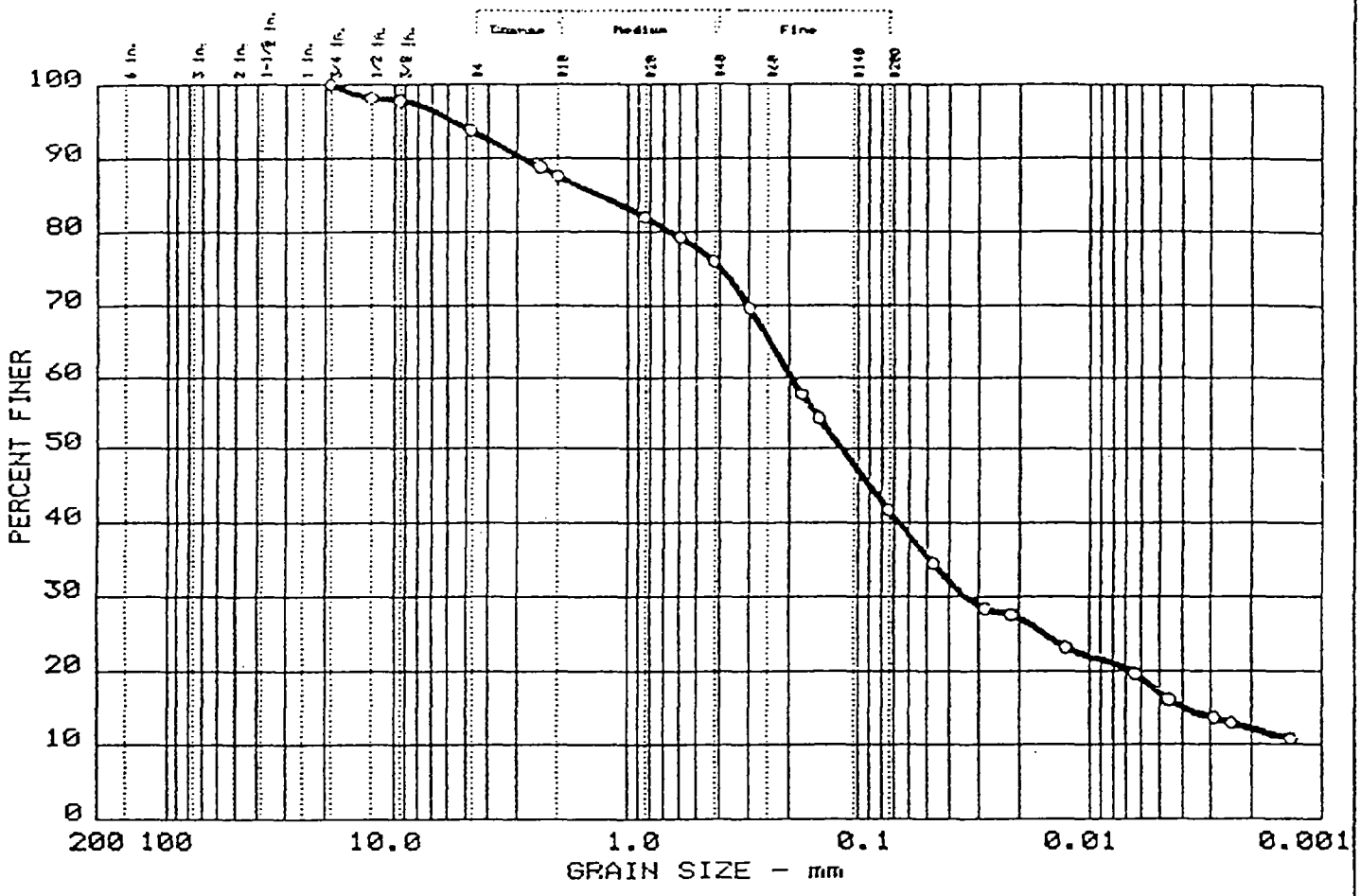
GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:
TESTED BY CLS/RT/JL
CHECKED BY CLS
APPROVED BY DJM

Sheet No.

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	0.0	6.2	52.1	24.7	17.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o	13	3	1.33	0.20	0.12	0.033	0.0039			

MATERIAL DESCRIPTION	USCS
o Gray Silty Fine-Coarse SAND, Some Clay, Little Gravel	SM

Project No.: 25014610
Project: WAYNE RECLAMATION & RECYCLING
o Sample: Tie-In Material #6 @ STA. 2+90

Date: November 23, 1994

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:

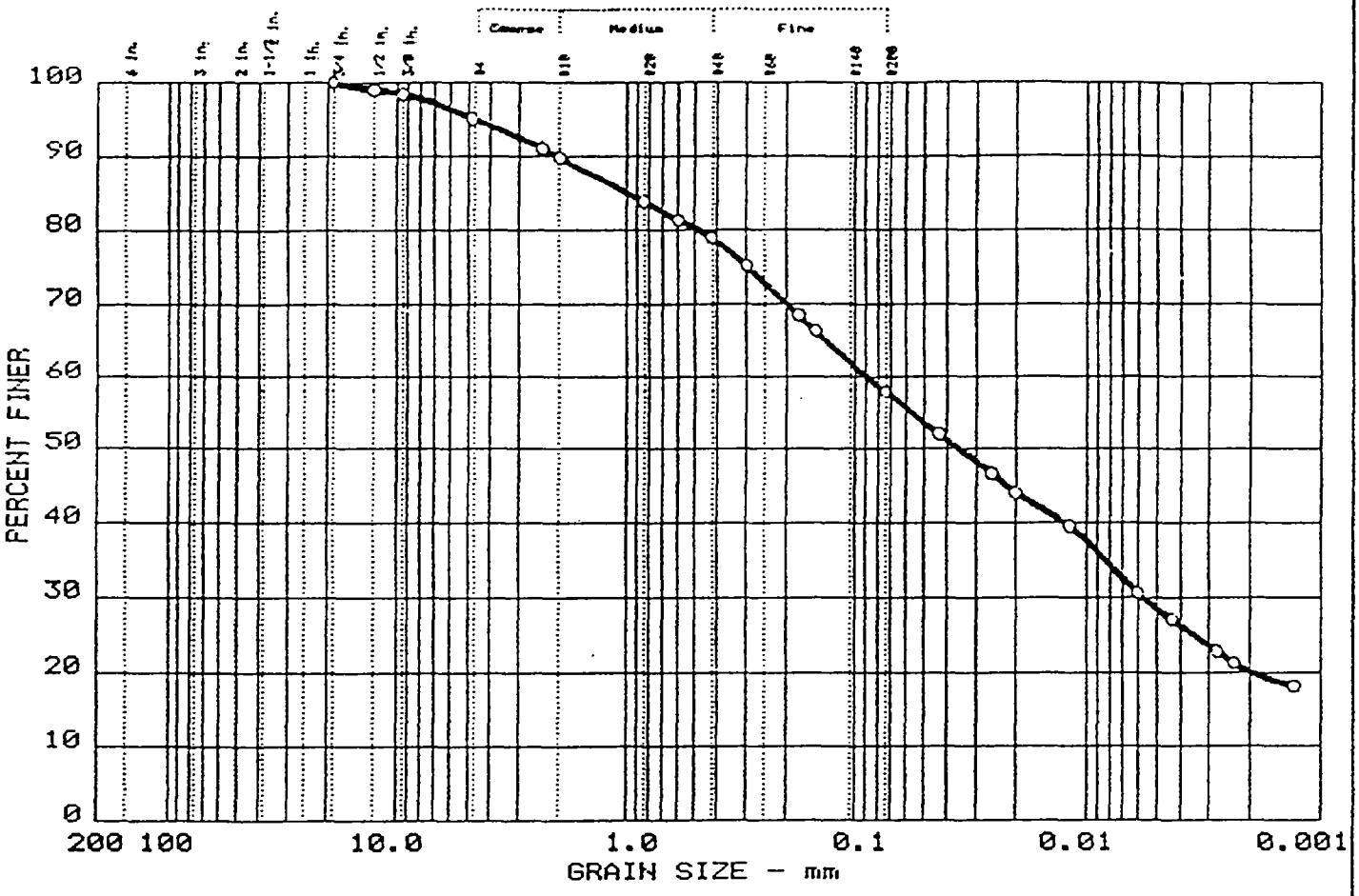
TESTED BY CLS

CHECKED BY CLS

APPROVED BY DJM

Sheet No.

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
O	0.0	4.9	37.1	29.5	28.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
O	25	8	0.98	0.09	0.04	0.006				

MATERIAL DESCRIPTION	USCS
O Gray Sandy Lean CLAY, Trace Gravel	CL

Project No.: 25014610
Project: WAYNE RECLAMATION & RECYCLING
O Sample: Tie-In Material #7 @ STA. 1+10

Date: November 23, 1994

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

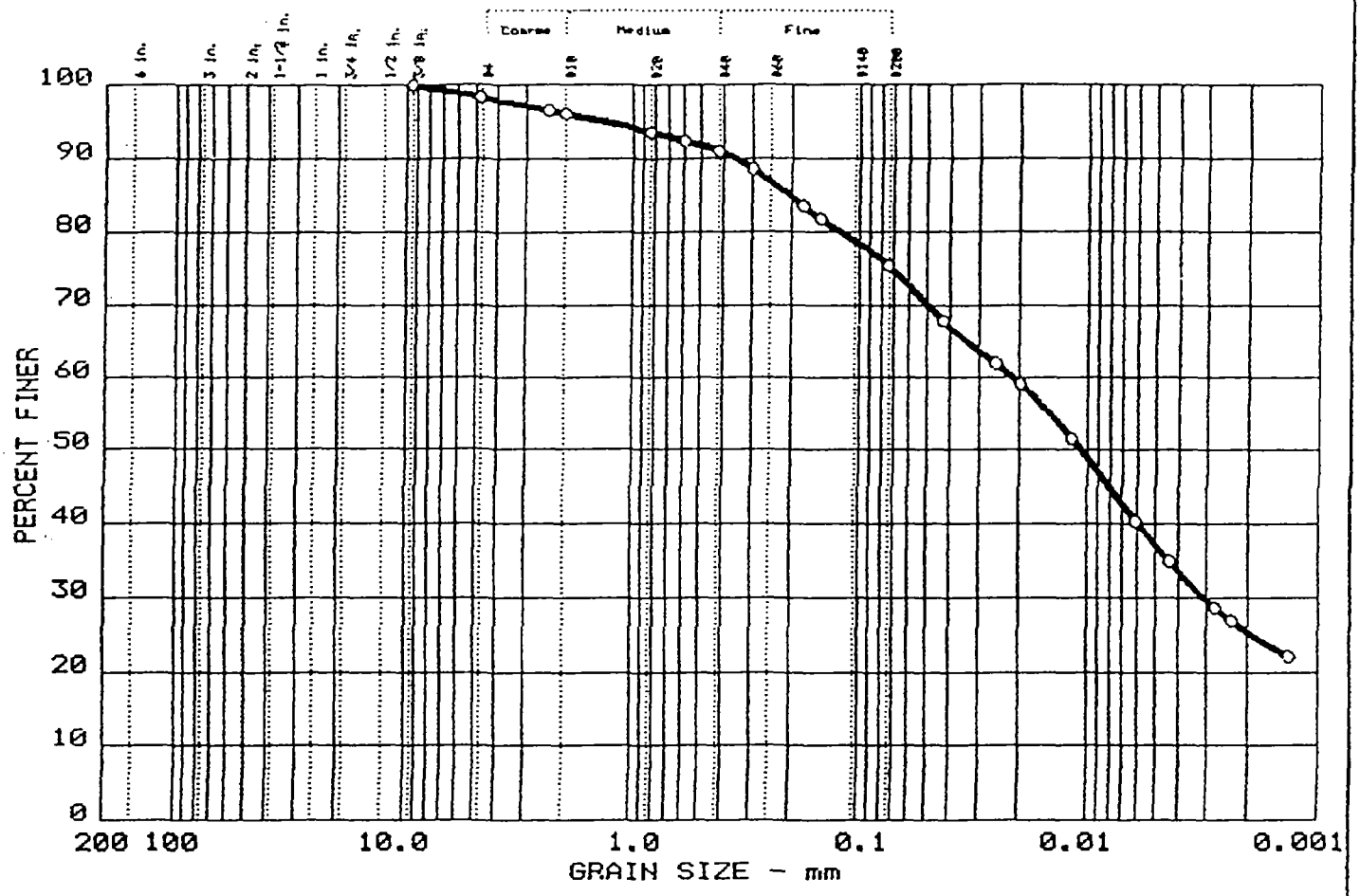
Remarks:
TESTED BY CLS
CHECKED BY CLS
APPROVED BY DJH

Sheet No.

A3

CLAY CAP MATERIAL SAMPLES

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	0.0	1.7	22.9	38.3	37.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o	27	10	0.20		0.01	0.003				

MATERIAL DESCRIPTION	USCS
o Brown Lean CLAY, Some Sand, Trace Gravel	CL

Project No.: 250146
Project: WAYNE RECLAMATION & RECYCLING
o Sample: STA. 0+00

Date: November 22, 1994

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:
TESTED BY CLS
CHECKED BY CLS
APPROVED BY DJH

Sheet No.

Job No. 250146
Date: 11/22/94

FALLING HEAD PERMEABILITY TEST

Montgomery Watson, One Science Court, Madison, WI 53711 Phone: (608)231-6955 or 231-4747

PROJECT	WAYNE RECLAMATION & RECYCLING
LOCATION	Columbia City, Indiana
SAMPLE	STA. 0+00
DEPTH (ft)	
SOIL DESCRIPTION	Brown Lean CLAY, Some Sand, Trace Gravel (CL)
SAMPLE DIAMETER (cm)	7.4
SAMPLE AREA, A(cm^2)	42.6

	INITIAL	FINAL
SAMPLE LENGTH, L(cm)	14.1	14.0
MOISTURE CONTENT, %	13.4	17.8
DRY DENSITY (lb/cu ft)	108.6	109.2
PERCENT COMPACTION	-	-

RUN	COEFFICIENT OF PERMEABILITY, k(cm/sec)
1	9.5E-08
2	8.8E-08
3	8.9E-08
4	7.5E-08
5	8.9E-08
6	8.1E-08
7	6.3E-08
8	6.9E-08
9	6.6E-08
10	6.2E-08

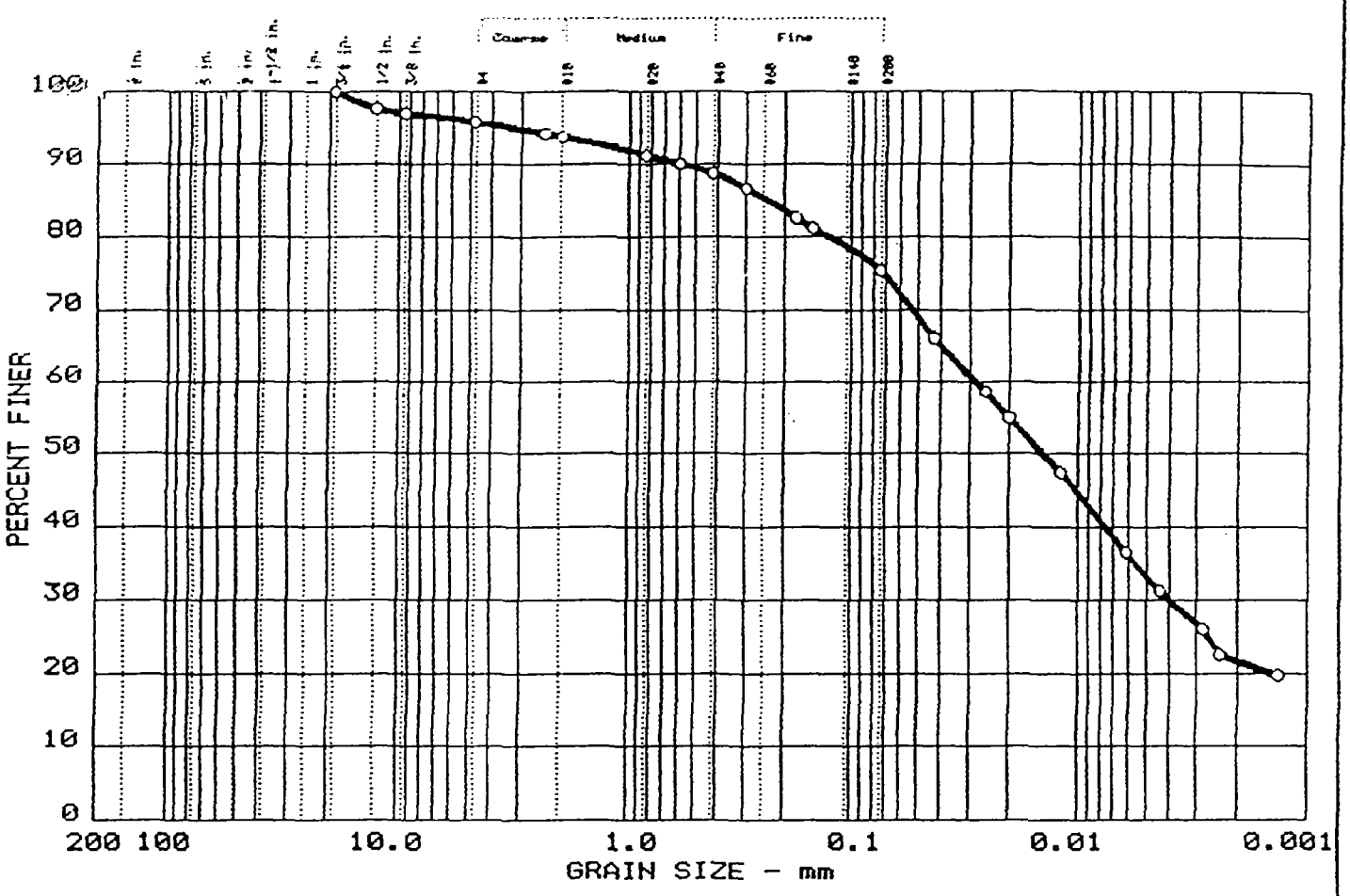
AVERAGE COEFFICIENT OF PERMEABILITY = 6.6E-08 cm/sec
(Based on run numbers 8 through 10)

FORMULA: $k = \frac{2.3aL}{At} \log_{10} \frac{h_0}{h_1}$, Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

REMARKS: This permeability test was performed on a relatively undisturbed 3-inch diameter Shelby tube sample.

CHECKED BY: CLS DATE: 11-22-94 APPROVED BY: DMM DATE: 11-22-94

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	0.0	4.2	20.4	42.4	33.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o	28	10	0.23		0.01	0.004				

MATERIAL DESCRIPTION	USCS
o Brown Lean CLAY, Some Sand, Trace Gravel	CL

Project No.: 250146
Project: WAYNE RECLAMATION & RECYCLING
o Sample: STA. 4+00

Date: November 22, 1994

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:
TESTED BY CLS
CHECKED BY CLS
APPROVED BY DJM

Sheet No.

Job No. 250146
Date: 11/22/94

FALLING HEAD PERMEABILITY TEST

Montgomery Watson, One Science Court, Madison, WI 53711 Phone: (608)231-6955 or 231-4747

PROJECT	WAYNE RECLAMATION & RECYCLING
LOCATION	Columbia City, Indiana
SAMPLE DEPTH (ft)	STA. 4+00
SOIL DESCRIPTION	Brown Lean CLAY, Some Sand, Trace Gravel (CL)
SAMPLE DIAMETER (cm)	7.4
SAMPLE AREA, A(cm^2)	42.6

	INITIAL	FINAL
SAMPLE LENGTH, L(cm)	10.9	10.8
MOISTURE CONTENT, %	13.1	15.7
DRY DENSITY (lb/cu ft)	112.2	113.0
PERCENT COMPACTION	-	-

RUN	COEFFICIENT OF PERMEABILITY, k(cm/sec)
1	6.3E-08
2	5.5E-08
3	5.7E-08
4	5.5E-08
5	5.8E-08
6	5.5E-08
7	5.1E-08
8	5.4E-08
9	5.4E-08
10	5.4E-08

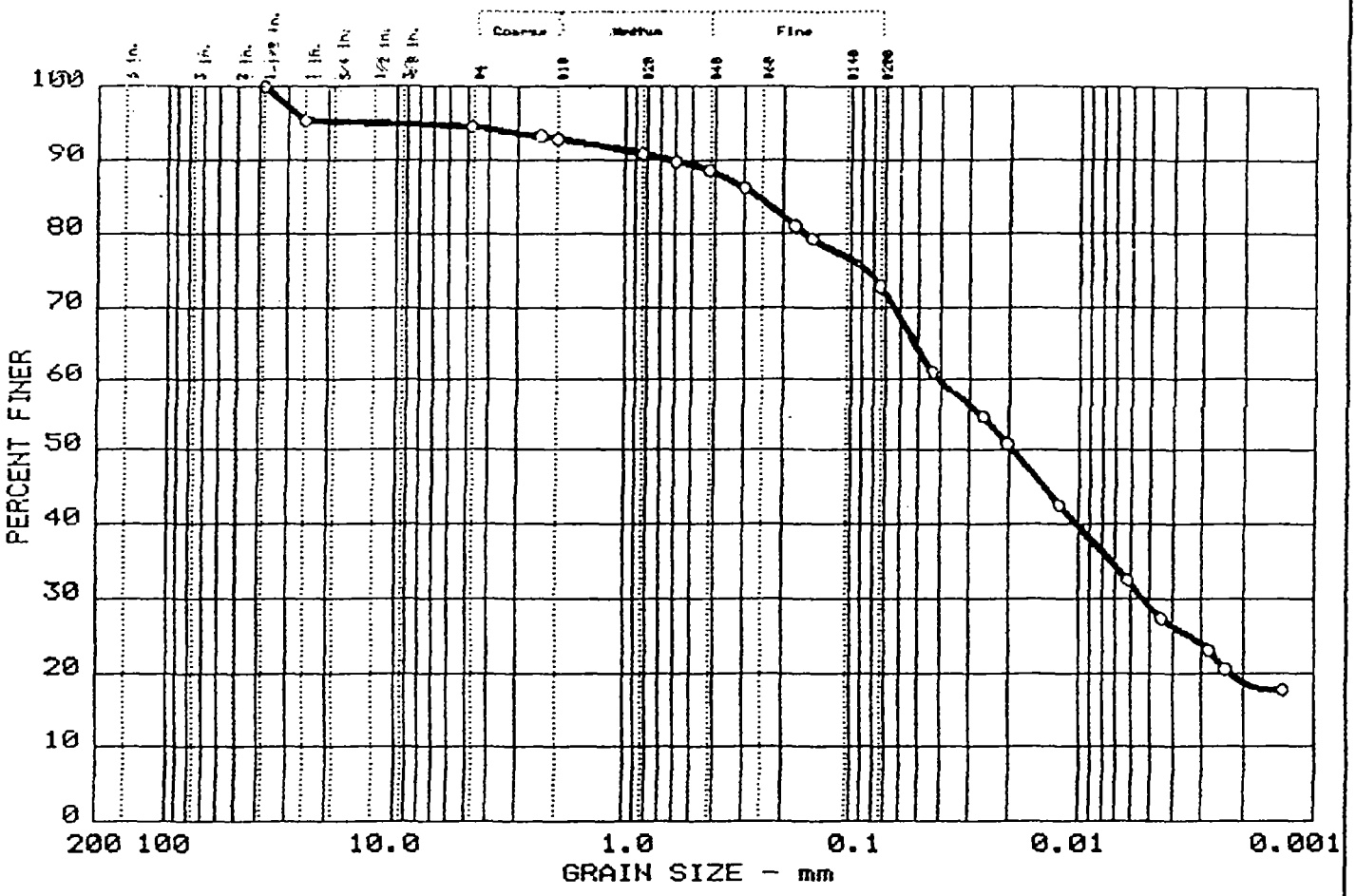
AVERAGE COEFFICIENT OF PERMEABILITY = 5.4E-08 cm/sec
(Based on run numbers 8 through 10)

FORMULA: $k = \frac{2.3aL}{At} \log_{10} \frac{h_0}{h_1}$, Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

REMARKS: This permeability test was performed on a relatively undisturbed 3-inch diameter Shelby tube sample.

CHECKED BY: GLS DATE: 11-22-94 APPROVED BY: DMM DATE: 11-22-94

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
o	0.0	5.4	21.7	44.0	28.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
o	32	13	0.26		0.02	0.005				

MATERIAL DESCRIPTION	USCS
o Brown Lean CLAY, Some Sand, Little Gravel	CL

Project No.: 250146
Project: WAYNE RECLAMATION & RECYCLING
o Sample: STA. 9+00

Date: November 22, 1994

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:
TESTED BY CLS
CHECKED BY CLS
APPROVED BY DJM

Sheet No.

Job No. 250146
Date: 11/22/94

FALLING HEAD PERMEABILITY TEST

Montgomery Watson, One Science Court, Madison, WI 53711 Phone: (608)231-6955 or 231-4747

PROJECT	WAYNE RECLAMATION & RECYCLING
LOCATION	Columbia City, Indiana
SAMPLE DEPTH (ft)	STA. 9+00
SOIL DESCRIPTION	Brown Lean CLAY, Some Sand, Little Gravel (CL)
SAMPLE DIAMETER (cm)	7.4
SAMPLE AREA, A(cm^2)	42.6

	INITIAL	FINAL
SAMPLE LENGTH, L(cm)	18.2	18.2
MOISTURE CONTENT, %	13.4	18.2
DRY DENSITY (lb/cu ft)	108.8	109.2
PERCENT COMPACTION	-	-

RUN	COEFFICIENT OF PERMEABILITY, k(cm/sec)
1	6.3E-07
2	3.8E-07
3	1.5E-07
4	1.0E-07
5	9.5E-08
6	8.9E-08
7	9.0E-08
8	8.1E-08
9	6.7E-08
10	6.5E-08

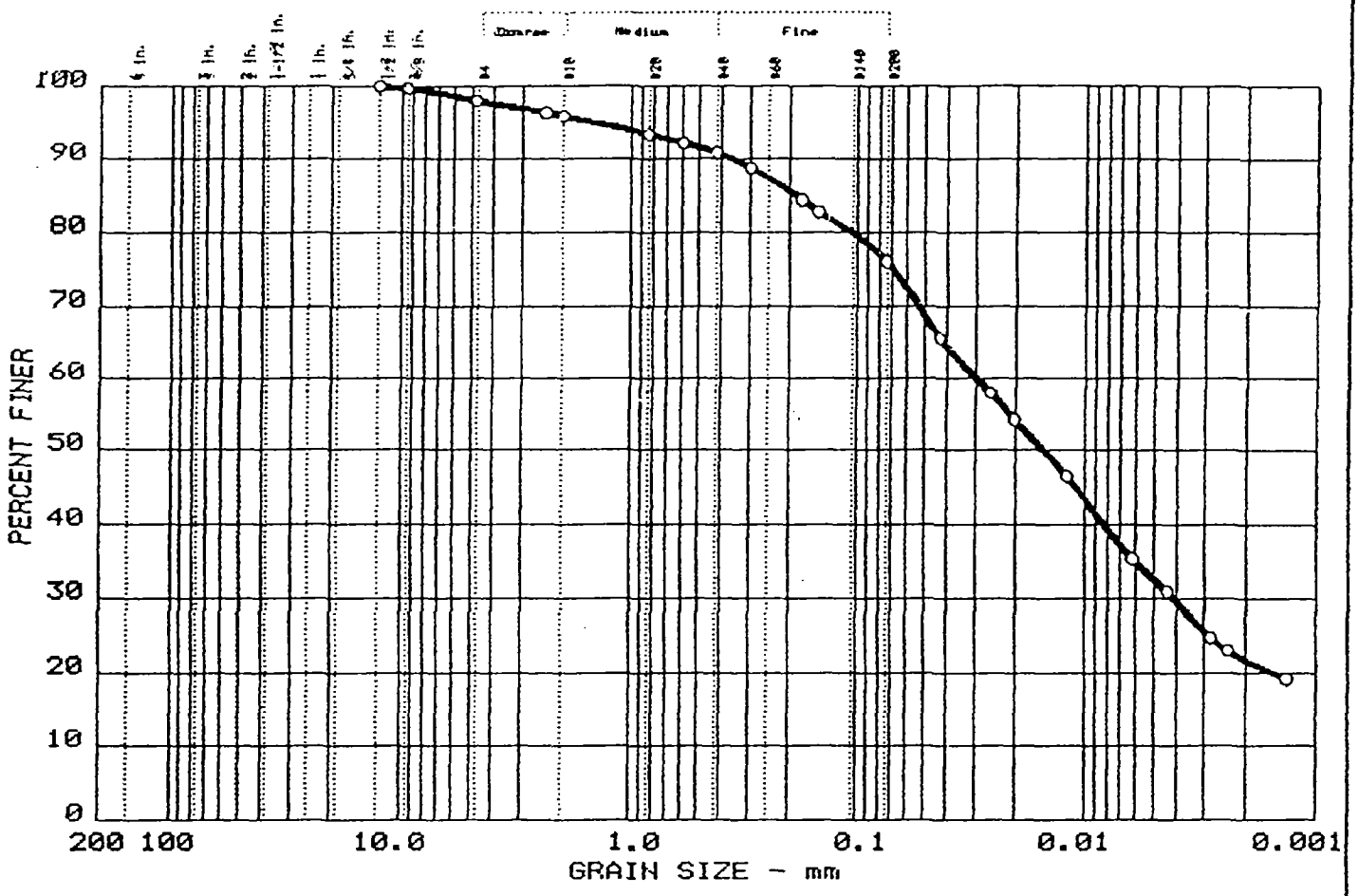
AVERAGE COEFFICIENT OF PERMEABILITY = 7.1E-08 cm/sec
(Based on run numbers 8 through 10)

FORMULA: $k = \frac{2.3aL}{At} \log_{10} \frac{h_0}{h_1}$, Where a = cross-sectional area of standpipe,
t = time for water level to fall from initial height, h_0, to final height, h_1
(All other terms are defined above)

REMARKS: This permeability test was performed on a relatively undisturbed 3-inch diameter Shelby tube sample.

CHECKED BY: CAS DATE: 11-22-94 APPROVED BY: DMM DATE: 11-22-9

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	2.0	22.0	43.5	32.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	28	10	0.19		0.02	0.004				

MATERIAL DESCRIPTION	USCS
○ Gray-Brown Lean CLAY, Some Sand, Trace Gravel	CL

Project No.: 250146
Project: WAYNE RECLAMATION & RECYCLING
○ Sample: STA. 11+50

Date: November 22, 1994

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN, INC.

Remarks:
TESTED BY CLS
CHECKED BY CLS
APPROVED BY DJM

Sheet No.

Job No. 250146
Date: 11/22/94

FALLING HEAD PERMEABILITY TEST

Montgomery Watson, One Science Court, Madison, WI 53711 Phone: (608)231-6955 or 231-4747

PROJECT	WAYNE RECLAMATION & RECYCLING
LOCATION	Columbia City, Indiana
SAMPLE DEPTH (ft)	STA. 11+50
SOIL DESCRIPTION	Gray-Brown Lean CLAY, Some Sand, Trace Gravel (CL)
SAMPLE DIAMETER (cm)	7.4
SAMPLE AREA, A(cm^2)	42.6

	INITIAL	FINAL
SAMPLE LENGTH, L(cm)	17.9	17.8
MOISTURE CONTENT, %	13.5	14.1
DRY DENSITY (lb/cu ft)	117.7	118.2
PERCENT COMPACTION	-	-

RUN	COEFFICIENT OF PERMEABILITY, k(cm/sec)
1	5.6E-08
2	4.2E-08
3	3.9E-08
4	2.9E-08
5	2.3E-08
6	2.3E-08
7	2.4E-08
8	2.4E-08
9	2.3E-08
10	3.0E-08

AVERAGE COEFFICIENT OF PERMEABILITY = 2.6E-08 cm/sec
(Based on run numbers 8 through 10)

FORMULA: $k = \frac{2.3aL}{At} \log_{10} \frac{h_0}{h_1}$, Where a = cross-sectional area of standpipe, t = time for water level to fall from initial height, h_0, to final height, h_1 (All other terms are defined above)

REMARKS: This permeability test was performed on a relatively undisturbed 3-inch diameter Shelby tube sample.

CHECKED BY: [illegible] DATE: 11-22-94 APPROVED BY: [illegible] DATE: 11-22-9

B

PHOTOGRAPHIC DOCUMENTATION

B1

GROUNDWATER EXTRACTION SYSTEM

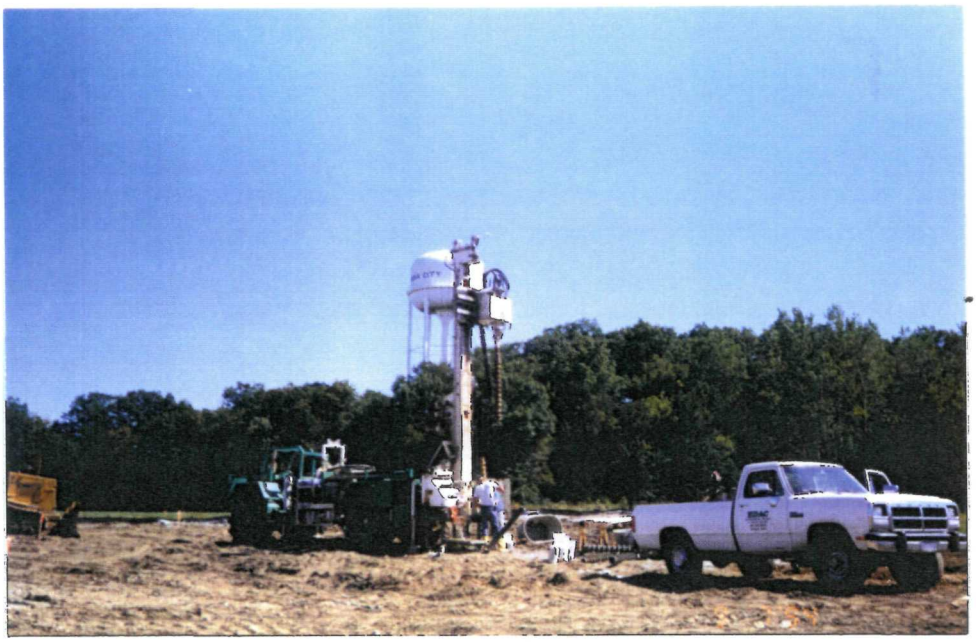


Photo #1: Hollow Stem Auger Drill Rig

Photo #2: Stainless steel well screen attached to PVC riser used in construction of groundwater extraction wells.

Photo #3: Finished Groundwater Extraction Well (typical)

Photo #4: Leak detection view port installed on untreated groundwater piping outside cut-off wall.

Photo #5: Working bench area prepared for excavation to cut-off wall.

Photo #6: Powdered bentonite to be mixed with imported clay and native soils during construction of cut-off wall.

Photo #7: Mixing clay and soil during backfill of cut-off wall.

Photo #8: Excavation of cut-off wall.

Photo #9: Construction of clay cap above cut-off wall.

B2

GROUNDWATER TREATMENT SYSTEM

Photo #1: Untreated Groundwater Influent Holding Tank

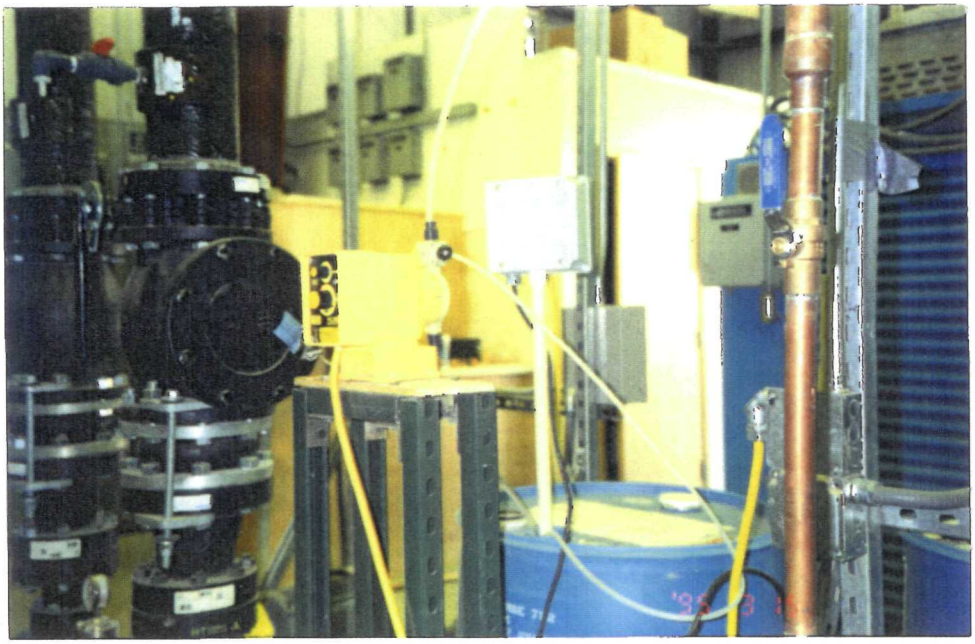


Photo #2: Anti-Scalant Metering Pump

Photo #3: Bag Filter

Photo #4: Installation of air stripping tower.

Photo #5: Air stripping tower cleaning tank and pump (foreground). Base of air stripping tower (background).

Photo #6: Top of air stripping tower.

Photo #7: Influent Transfer Pumps

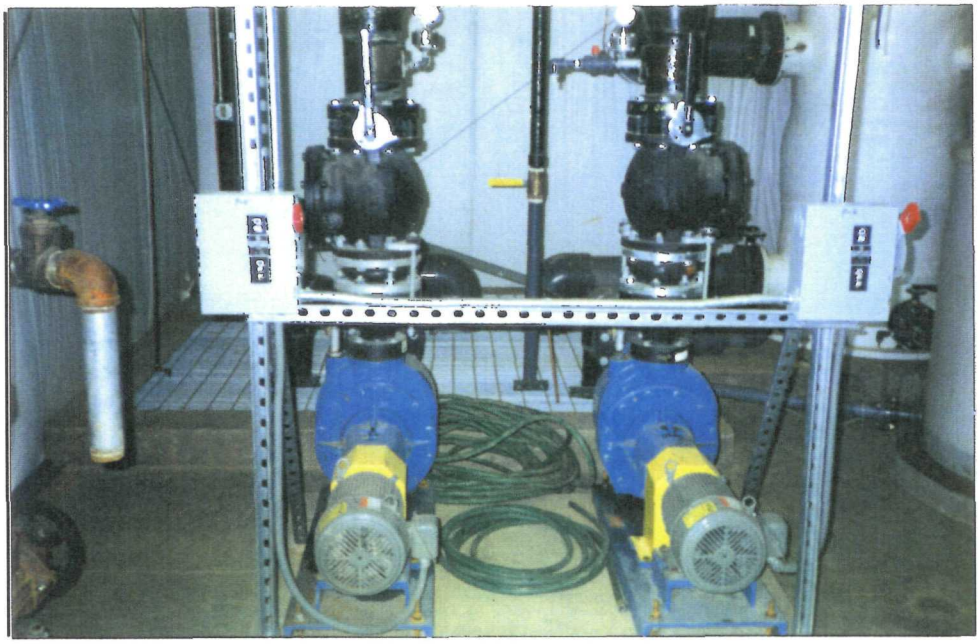


Photo #8: Effluent Transfer Pumps

Photo #9: Fusing high density polyethylene (HDPE) piping for force main

Photo #10:
Installation of HDPE piping along force main route.

Photo #11:
Compacting backfill above force main piping.

Photo #12:
Bore and jack of force main piping beneath railroad line.

Photo #13: Installation of force main piping into outer casing beneath railroad line.

Photo #14: Directional drilling equipment used to advance the force main beneath the two Blue River crossings.

Photo #15: Tap in of force main at WWTP's grit chamber. Above ground piping is heat traced and insulated.

Photo #16: Tap in of force main at WWTP's grit chamber. Metal jacket installed around heat trace and insulation.

Photo #17: Air Release Valve Manhole (unfinished)

Photo #18: Paving roadways along force main route.

Photo #19: Construction of leak detection manhole.

B3

SOIL VAPOR EXTRACTION & AIR SPARGING SYSTEMS

Photo #1: Completed soil vapor extraction / air sparging well nest (typical).

Photo #2: Soil vapor extraction and air sparging piping in southeast area.

Photo #3: Soil vapor extraction piping in AST area.

Photo #4: Air Sparging Air Compressor

Photo #5: Control valve box in southeast area (typical).

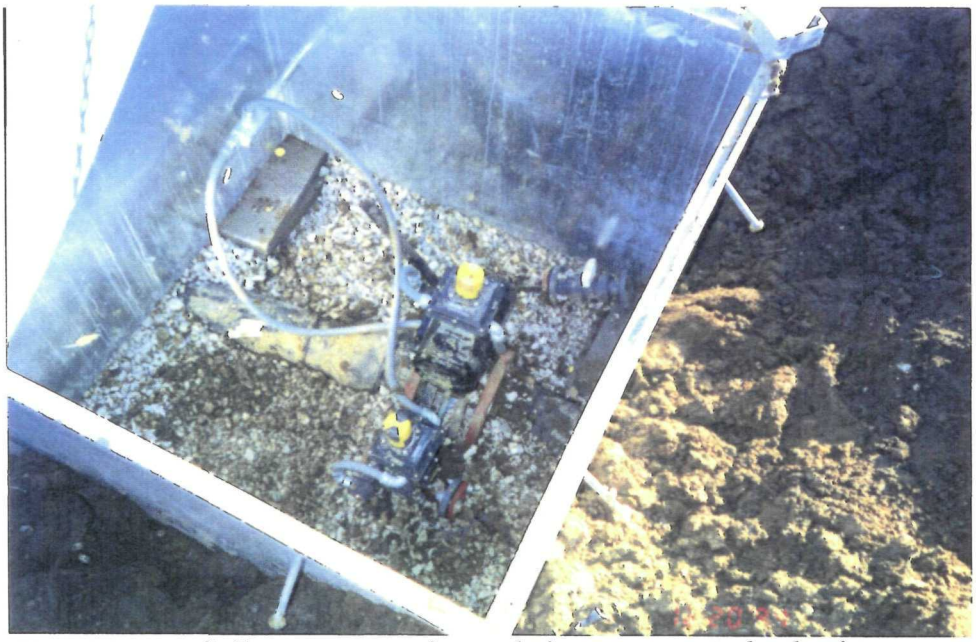


Photo #6: Soil vapor extraction and air sparge control valve in control valve box (typical).

B4

OFF-GAS TREATMENT SYSTEM

Photo #1: Air Filter

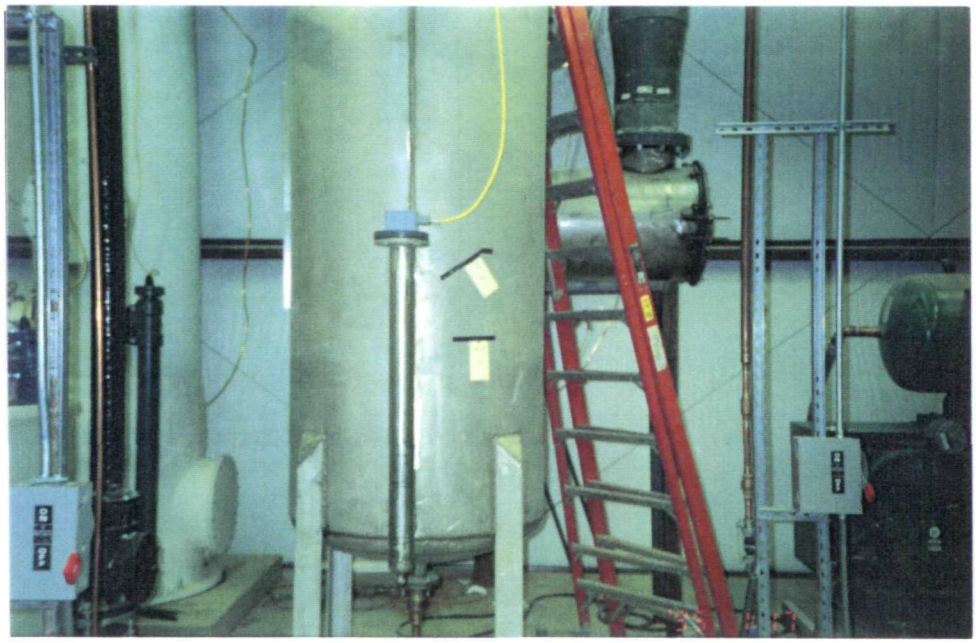


Photo #2: Moisture Separator (foreground)
Air Filter (background)

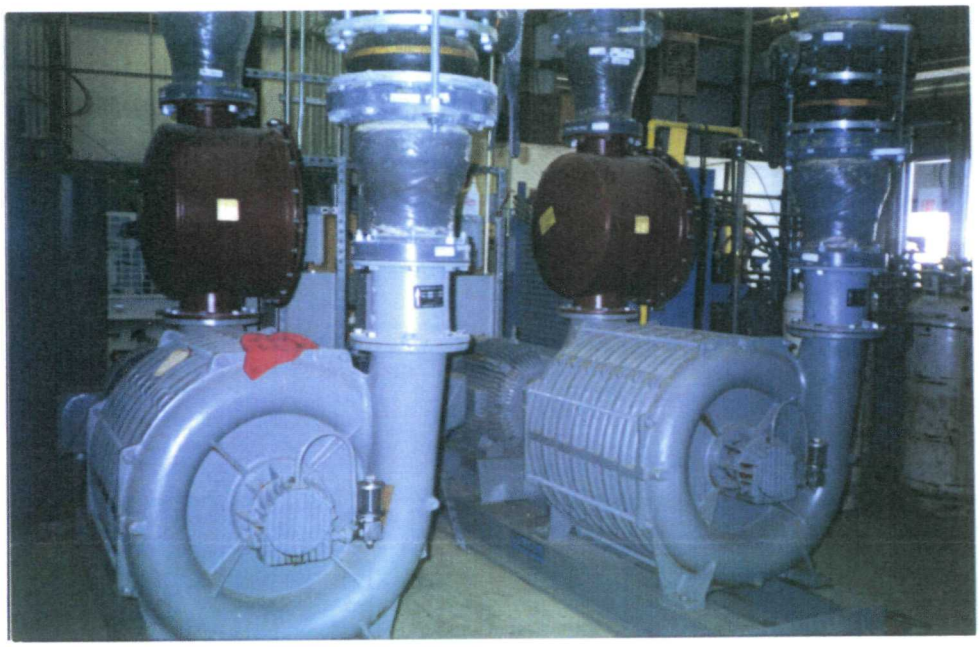


Photo #3: Blowers

Photo #4: Heat Exchanger

Photo #5: Regenerative Adsorbent System

Photo #6: Regenerative Adsorbent System

Photo #7: Installation of air discharge stack.

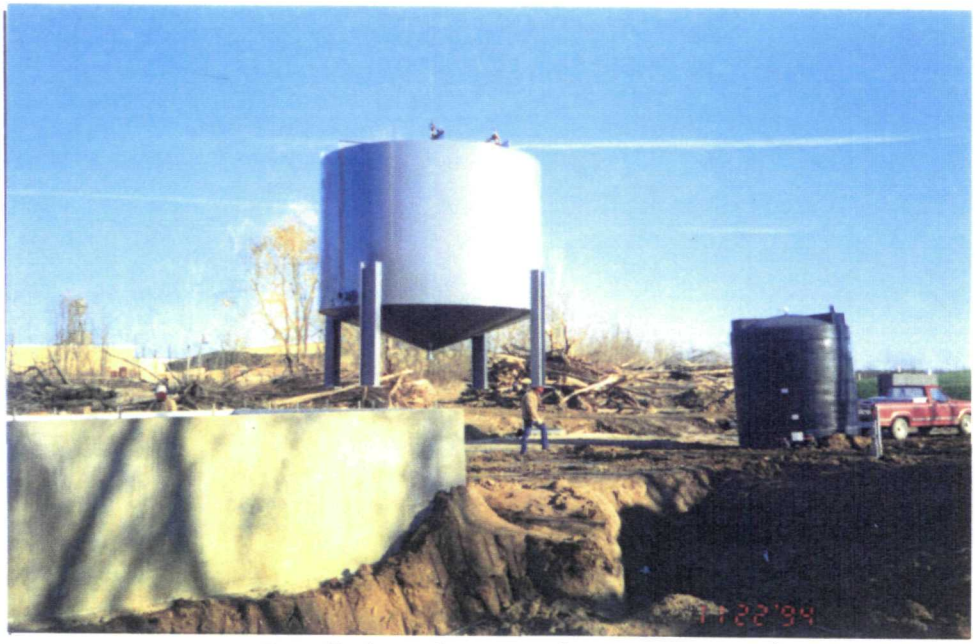


Photo #8: Installation of waste solvent storage tank.

B5

INSTRUMENTATION & CONTROLS

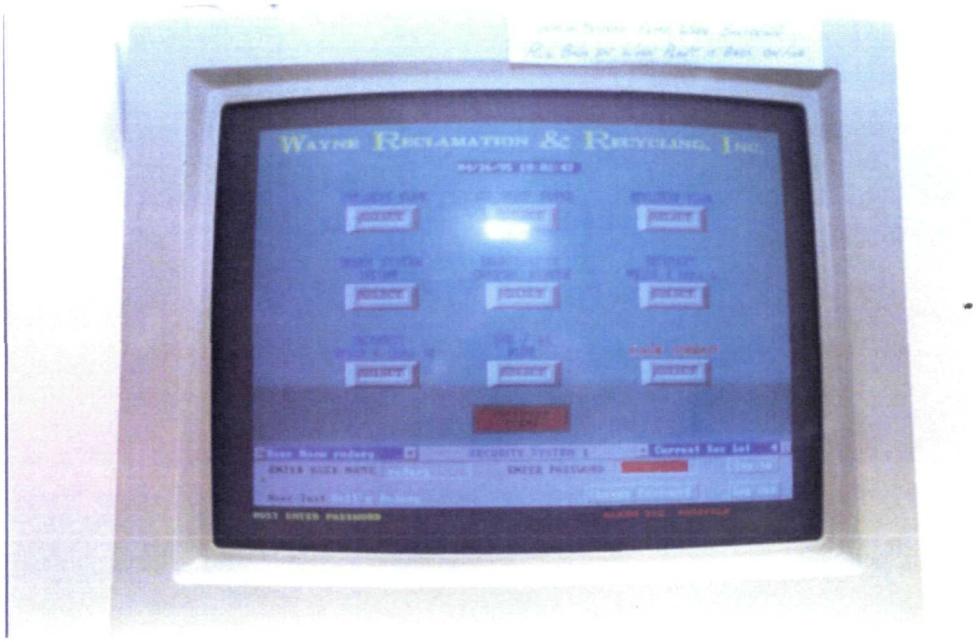


Photo #1: Main menu of software that controls WRR treatment system.

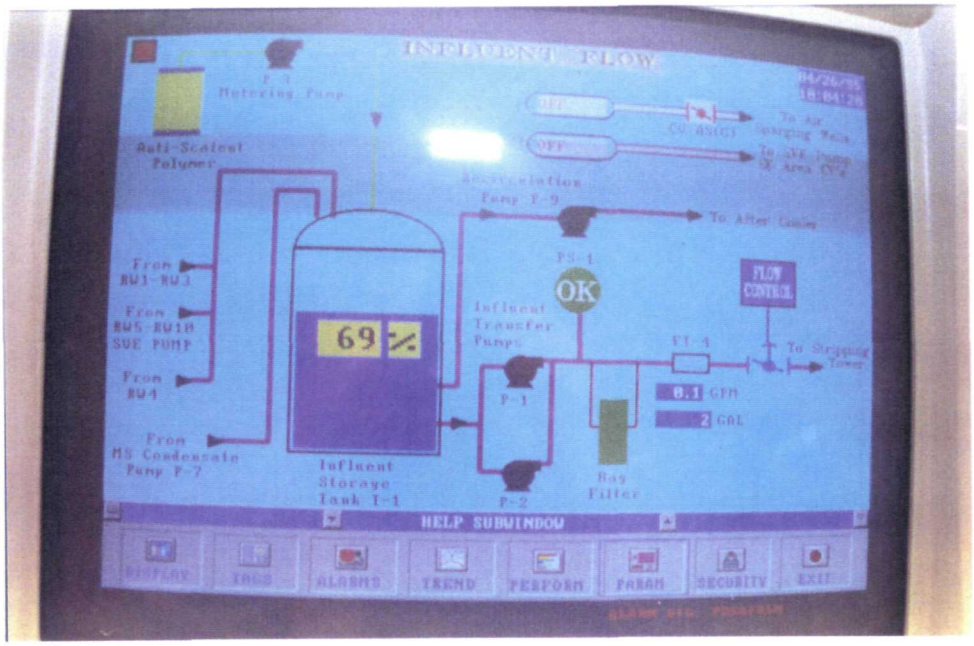


Photo #2: Software screen showing status of water level in influent storage tank.

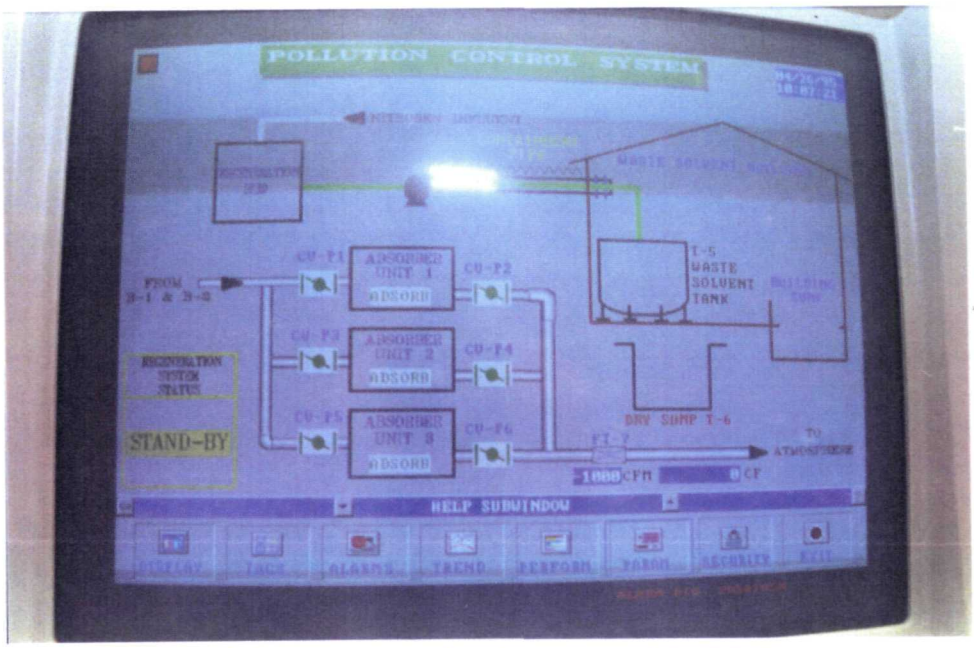


Photo #3: Software screen showing status of PADRE unit.

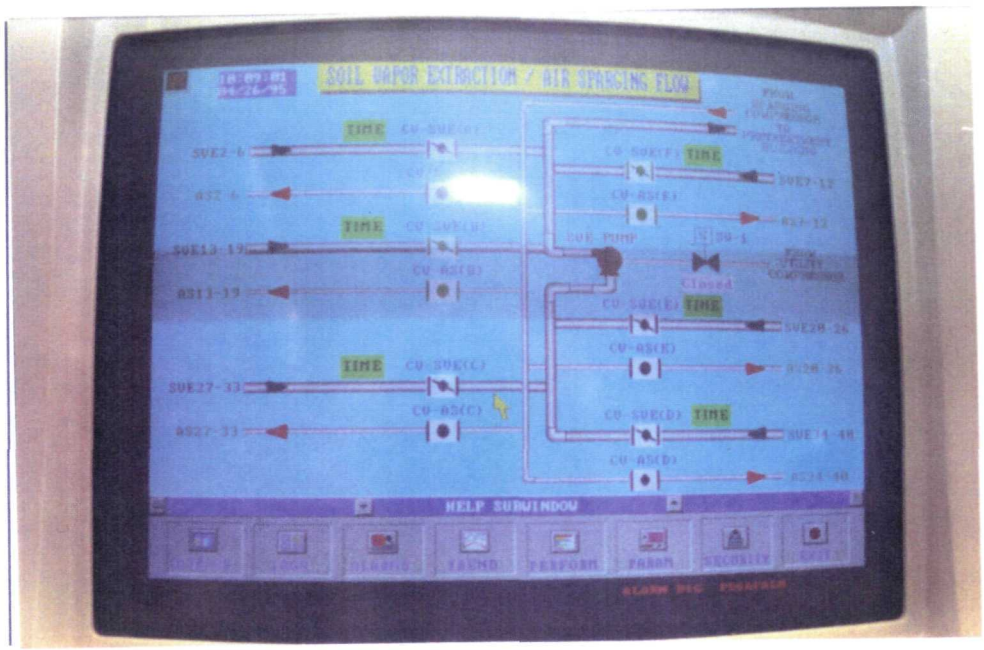


Photo #4: Software screen showing status control valves on SVE and AS lines in SE area.

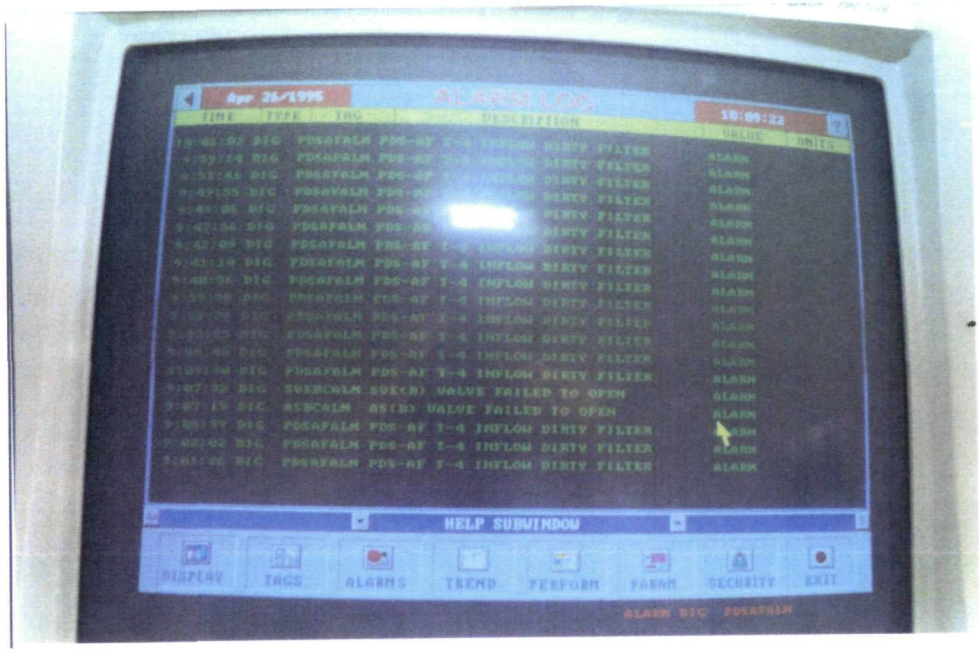


Photo #5: Software screen alarm status.

B6

TREATMENT BUILDING & WASTE SOLVENT BUILDING

Photo #1: Wooden forms used during construction of treatment building foundation.

Photo #2: Pretreatment building foundation wall.

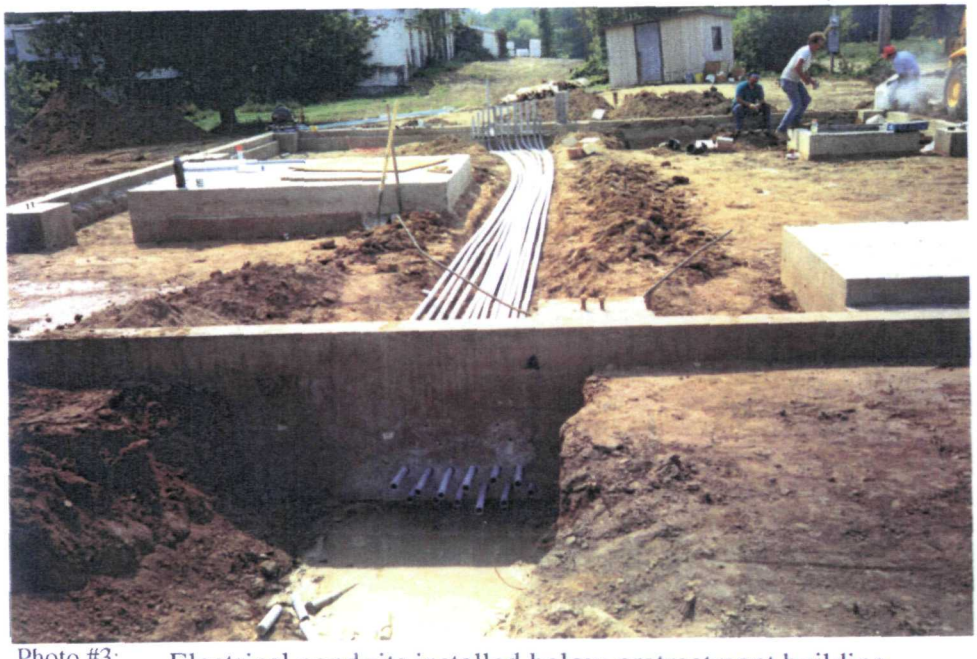


Photo #3: Electrical conduits installed below pretreatment building floor.

Photo #4: Soil vapor extraction piping stubbed up in pretreatment building.

Photo #5: Pouring pretreatment building floor.

Photo #6: Waste solvent building foundation excavation.

Photo #7: Waste slovent building foundation and wall reinforcing.

Photo #8: Constructing pretreatment building frame.

Photo #9: Constructing pretreatment building siding.

Photo #10: Constructing office within pretreatment building.

Photo #11: Septic tank outside of pretreatment building.

Photo #12: Completed waste solvent and pretreatment buildings.

C

FORCE MAIN COMPACTION RESULTS
(IN CHRONOLOGICAL ORDER)

MATERIALS INSPECTION & TESTING, INC.

PHONE (219) 489-1567 • 3807 GOSHEN ROAD • FORT WAYNE, INDIANA 46818

MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-8-94 PAGE 1 OF 2

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 85 ° TO 90 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED TRENCH BACKFILL - WHITLEY STREET

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ ———

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY

- ☐ STEEL WHEEL
- ☐ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ ———
- ☐ FROZEN
- ☒ LOOSE TESTS 1,4,5,6
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 8-10 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 15
NO. OF TESTS TO DATE ———

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1 *	STATION 14+50 ✓	0.0"±	6.4	93.8
2	STATION 13+75 ✓	0.0"±	8.1	95.8
3	STATION 13+25 ✓	0.0"±	6.5	97.1
4 *	STATION 14+50 ✓	2.0'±	11.3	87.1
5 *	STATION 13+75 ✓	2.5'±	11.7	88.2
6 *	STATION 13+25 ✓	2.0'±	12.4	89.3
7	STATION 15+00 ✓	3.0'±	8.2	95.2
8	STATION 15+25 ✓	3.0'±	8.0	95.0

REMARKS:

* AREA DID NOT ACHIEVE REQUIRED DENSITY. SUPT. AWARE OF LOW RESULT TEST AREAS.

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PROJECT WAYNE RECLAMATION
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB # _____
DATE 7-8-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 85 ° TO 90 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED TRENCH BACKFILL - WHITLEY STREET

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☑ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☑ CLAY
- ☐ LOAM
- ☐ _____

METHOD OF COMPACTION
- ☑ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☐ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☑ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☐ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 8-10 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- ☒ STANDARD AASHO T-99

119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 15
NO. OF TESTS TO DATE _____

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☑ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
9	STATION 15+25 ↓	4.5'±	8.3	95.5
10	STATION 15+00 X	4'10" ±	7.9	95.1
11	STATION 15+10 X	4.0'±	8.1	96.2
12	STATION 15+00 X	3.0'±	7.3	95.0
13	STATION 15+25 ↓	3.0'±	7.1	95.3
14	STATION 15+00 X	1.0'±	6.9	95.2
15	STATION 15+25 ↓	1.0'±	7.0	96.0

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-11-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 60 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED TRENCH BACKFILL - WHITLEY STREET

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☐ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 8-10 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL
- ☒ MODIFIED AASHO T-180
- ☐ STANDARD AASHO T-99

119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 6
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 15+75 †	4.50"±	8.3	95.2
2	STATION 15+85 †	4.50"±	8.6	96.1
3	STATION 15+75 †	2.83"±	8.1	95.0
4	STATION 15+85 †	2.83"±	7.9	95.4
5	STATION 15+75 †	1.0"±	8.5	95.7
6	STATION 15+85 †	1.0"±	8.4	96.0

REMARKS:

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MATERIALS INSPECTION & TESTING, INC.

PHONE (219) 489-1567 • 3807 GOSHEN ROAD • FORT WAYNE, INDIANA 46818

JOB # _____
PROJECT Wayne Reclamation
CLIENT _____
CLIENT JOB # _____
DATE 7.12.94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER Sunny TEMP. RANGE 80 ° TO 85 °

CONTRACTOR Young Exc. AREA WORKED Utility str. Front

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☑ B. Borrow

METHOD OF COMPACTION
- ☑ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☑ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☑ CLAY
- ☐ LOAM
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☑ SMOOTH
- ☐ WET
- ☑ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☑ HARD
- ☐ RUTTED

THICKNESS OF LIFTS Varies INCHES

PLANNED DEPTH OF FILL Varies FT. PLACED TO DATE Varies FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☑ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 7.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 9
NO. OF TESTS TO DATE _____

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☑ nuke

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	16+50 +	3'.6"	8.1	75.1
2	16+55 +	3'.2"	8 5	95.5
3	16+50 +	1'.6"	7.9	75.2
4	16+55 +	1'6"	8.2	75 4
5	17+25 T	3'6"	7 8	96.5
6	17+25 +	1'.0"	7.5	96.0
7	18+00 +	4'.0"	7.7	95.3
8	18+00 +	2'.10"	8.0	95.6
9	18+00 +	1'.0"	7.8	95.1

REMARKS:

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MIT JOB # _____
PROJECT Wayne proclamation
CLIENT _____
CLIENT JOB # _____
DATE 7-13-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER Sunny TEMP. RANGE 80 ° TO 85 °

CONTRACTOR Young exc AREA WORKED Collins st. trench

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☑ B-Borrow

METHOD OF COMPACTION
- ☑ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☑ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☑ CLAY
- ☐ LOAM
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☑ SMOOTH
- ☐ WET
- ☑ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☑ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-16" INCHES

PLANNED DEPTH OF FILL Varies FT. PLACED TO DATE Varies FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- ☑ STANDARD AASHO T-99

119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☑ NUKE

NO. OF TESTS THIS DATE _____

NO. OF TESTS TO DATE _____

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	Station 18+75 +	3'-6"	76	95.4
2	" 18+75 +	2'-10"	74	95.0
3	" 19+50 +	4' 6"	79	95.1
4	" 19+50 +	3'-2"	73	95.5
5	" 18+75 +	.6"	75	95.3
6	" 19+50 +	1'-6"	70	95.1
7	" 20+25 -	3'-6"	78	95.6
8	" 20+25 -	2'-0"	82	96.1
9	" 20+25 -	.6"	80	95.3

REMARKS:

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MIT JOB # _____
PROJECT Wayne Proclamation
CLIENT _____
CLIENT JOB # _____
DATE 7-13-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER Sunny TEMP. RANGE 80 ° TO 85 °

CONTRACTOR Younge exc. AREA WORKED Whitley St trench

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☑ B-Borrow

METHOD OF COMPACTION
- ☑ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☑ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☑ CLAY
- ☐ LOAM
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☑ SMOOTH
- ☐ WET
- ☑ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☑ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-16" INCHES

PLANNED DEPTH OF FILL Varies FT. PLACED TO DATE Varies FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- ☑ STANDARD AASHO T-99

119.2 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %

NO. OF TESTS THIS DATE _____

NO OF TESTS TO DATE _____

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☑ Nuke

LOCATIONS AND RESULTS OF TESTS

TEST NO	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	Station 14+50 ℄	2'-6"	9.5	95.2
2	" 13+75 ℄	3'-0"	9.1	95.5
3	" 13+25 ℄	2'-6"	8.8	95.0

REMARKS These areas tested had previously failed 7-5-94

FORM 106

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MATERIALS INSPECTION & TESTING, INC.

PHONE (219) 489-1567 • 3807 GOSHEN ROAD • FORT WAYNE, INDIANA 46818

MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-15-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER OVERCAST TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED COESSE ST. TRENCH

TYPE OF FILL ☐ SAND ☐ CLAY ☐ LOAM ☒ B-BORROW

TYPE OF SUBGRADE ☐ SAND ☒ CLAY ☐ LOAM ☐ ____

METHOD OF COMPACTION ☒ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☐ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☒ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ ____

CONDITION OF GRADE ☐ ROUGH ☒ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☒ HARD ☐ RUTTED

THICKNESS OF LIFTS 12-16 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 4
NO. OF TESTS TO DATE

METHOD OF TEST ☐ SAND CONE ☐ BALLOON ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 24+00		4'6"	7.9	95.8
2	STATION 24+00		3'4"	7.4	97.3
3	STATION 24+00		2'5"	7.7	95.6
4	STATION 24+00		1'6"	7.3	96.1

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB # _____
DATE 7-18-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED SWIHART STREET TRENCH

TYPE OF FILL ☐ SAND ☐ CLAY ☐ LOAM ☒ B-BORROW

TYPE OF SUBGRADE ☐ SAND ☒ CLAY ☐ LOAM ☐ _____

METHOD OF COMPACTION ☒ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☐ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☒ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ _____

CONDITION OF GRADE ☐ ROUGH ☒ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☒ HARD ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 9
NO. OF TESTS TO DATE _____

METHOD OF TEST ☐ SAND CONE ☐ BALLOON ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 24+35	4'0"	9.4	95.2
2	STATION 24+80	4'6"	8.9	95.8
3	STATION 25+25	4'0"	9.5	95.4
4	STATION 24+40	3'0"	8.7	95.3
5	STATION 25+20	3'0"	7.9	95.3
6	STATION 24+75	2'0"	8.5	95.1
7	STATION 25+25	2'0"	9.0	95.7
8	STATION 25+30	1'0"	8.8	95.6
9	STATION 24+70	1'0"±	8.3	96.3

REMARKS:

MIT

MIT INCORPORATED

MATERIALS INSPECTION & TESTING, INC.

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB # _____
DATE 7-14-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER OVERCAST TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED COLLINS & COOPER STS. TRENCH

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☑ B-BORROW

METHOD OF COMPACTION
- ☑ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☑ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☑ CLAY
- ☐ LOAM
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☑ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☑ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-16 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- XXX STANDARD AASHO T-99

119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☑ ~~NUCLEAR~~ DENSITY

NO. OF TESTS THIS DATE 8

NO. OF TESTS TO DATE _____

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 21+00		4'0"	8.2	95.5
2	STATION 21+00		2'10"	8.0	95.3
3	STATION 21+00		1'0"	7.8	95.1
4	STATION 21+75		4'6"	8.5	96.0
5	STATION 21+75		3'2"	8.1	95.0
6	STATION 21+75		2'4"	7.9	95.2
7	STATION 21+75		0'10"	7.6	95.3
8	STATION 22+50		5'0"	8.2	96.1

REMARKS:

FORM 106

MIT

MIT INCORPORATED

MATERIALS INSPECTION & TESTING, INC.

PHONE (219) 489-1567 · 3807 GOSHEN ROAD · FORT WAYNE, INDIANA 46818

MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB # _____
DATE 7-14-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 80 ° TO 85 °

CONTRACTOR YOUNG ENVIRONMENTAL AREA WORKED COESSE ST. TRENCH

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ _____

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-16 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 7
NO. OF TESTS TO DATE _____

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ NUCLEAR-DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 22+50		3'10"	8.6	96.2
2	STATION 22+50		2'6"	8.1	95.1
3	STATION 22+50		0'6"	7.3	95.8
4	STATION 23+25		3'6"	7.9	95.3
5	STATION 23+25		0'6"	7.1	95.0
6	STATION 23+50		3'6"	7.7	95.2
7	STATION 23+50		2'2"	8.0	95.4

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-19-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TO CLOUDY TEMP. RANGE 82 ° TO 86 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED COESSE STREET - TRENCH

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ ———

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY

- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ ———
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 9
NO. OF TESTS TO DATE ———

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 29+50	4'8"	7.4	95.4
2	STATION 29+75	3'6"	7.4	95.2
3	STATION 29+60	2'6"	7.7	95.1
4	STATION 30+30	4'6"	8.4	96.1
5	STATION 29+55	1'2"	8.3	95.7
6	STATION 30+40	3'0"	7.9	95.5
7	STATION 31+00	4'6"	9.4	96.2
8	STATION 31+20	3'0"	9.3	96.0
9	STATION 31+10	2'0"	8.6	96.5

REMARKS:

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PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-19-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TO CLOUDY TEMP. RANGE 82 ° TO 88 °

CONTRACTOR YOUNG ENVIRONMENTAL AREA WORKED ADDITIONAL TEST ON AREAS WITH INSUFFICIENT TESTS

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ ———

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☐ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ ———

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 15
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 22+90	2'0"	7.4	96.2
2	STATION 23+90	4'0"	7.9	95.4
3	STATION 21+10	2'0"	8.5	96.0
4	STATION 20+30	4'0"	8.1	95.8
5	STATION 19+50	2'0"	7.7	95.5
6	STATION 18+75	2'0"	8.2	95.7
7	STATION 17+70	2'0"	8.6	96.4
8	STATION 16+80	2'0"	7.8	95.6

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-19-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TO CLOUDY TEMP. RANGE 82 ° TO 88 °

CONTRACTOR YOUNG ENVIRONEMNTAL AREA WORKED ADDITIONAL TESTS ON AREAS WITH INSUFFICIENT TESTS

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ ———

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☐ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ ———

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 15
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
9	STATION 16+75	4'0"	8.2	95.3
10	STATION 16+30	2'0"	7.8	95.2
11	STATION 15+75	2'0"	8.6	96.1
12	STATION 14+25	1'0"	7.3	95.4
13	STATION 14+30	4'0"	9.0	96.4
14	STATION 13+50	1'0"	7.5	95.1
15	STATION 13+55	4'0"	9.3	95.3

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-20-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLOUDY TO PARTLY CLOUDY TEMP. RANGE 70 ° TO 90 °

CONTRACTOR YOUNG ENVIRONMENTAL AREA WORKED COESSE @ HANNA ST. TRENCH

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ ———

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ ———

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %

NO. OF TESTS THIS DATE 6

NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 31+90		4'0"	7.9	96.7
2	STATION 31+85		3'0"	7.7	95.8
3	STATION 31+90		2'0"	8.0	97.2
4	STATION 32+55		4'0"	7.5	96.1
5	STATION 31+80		1'0"	8.2	97.1
6	STATION 32+50		3'0"	7.5	95.4

REMARKS:

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MIT JOB # 94-200-Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-22-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED COESSE STREET - TRENCH

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☑ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☑ CLAY
- ☐ LOAM
- ☐ _____

METHOD OF COMPACTION
- ☑ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☑ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☑ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☑ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 5
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☑ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 34+25		2'0"	9.5	95.5
2	STATION 34+50		2'0"	7.9	96.1
3	STATION 35+30		4'0"	9.2	95.1
4	STATION 35+40		3'0"	8.6	95.4

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-25-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 75 ° TO 82 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED COESSE STREET - TRENCH

TYPE OF FILL ☐ SAND ☐ CLAY ☐ LOAM ☒ B-BORROW

TYPE OF SUBGRADE ☐ SAND ☒ CLAY ☐ LOAM ☐ ———

METHOD OF COMPACTION ☒ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☐ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☒ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ ———

CONDITION OF GRADE ☐ ROUGH ☒ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☒ HARD ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 6
NO. OF TESTS TO DATE

METHOD OF TEST ☐ SAND CONE ☐ BALLOON ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 35+60		2'0"	8.5	95.3
2	STATION 35+30		1'0"	9.1	97.1
3	STATION 36+00		4'0"	8.6	96.2
4	STATION 36+05		3'0"	7.9	95.5
5	STATION 36+15		2'0"	8.3	96.0
6	STATION 36+00		1'0"	9.0	95.9

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-26-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☑ CLAYEY SAND

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☑ SAND & CLAY

METHOD OF COMPACTION
- ☑ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☑ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☑ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☑ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %

NO. OF TESTS THIS DATE 29

NO. OF TESTS TO DATE _____

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☑ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 36+90		3'10"	14.0	92.3
2	STATION 37+50		4'0"	12.9	91.5
3	STATION 38+05		4'0"	13.3	93.3
4	STATION 36+75		3'0"	14.2	91.6
5	STATION 37+40		3'0"	12.5	90.8
6	STATION 37+95		3'0"	13.0	93.6
7	STATION 36+80		2'0"	12.7	94.0
8	STATION 37+80		2'0"	13.6	91.2

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-26-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYE SAND

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY

- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- ☒ STANDARD AASHO T-99

116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ NUCLEAR DENSITY

NO. OF TESTS THIS DATE 29

NO. OF TESTS TO DATE

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
9	STATION 36+95		0.0"	13.6	93.6
10	STATION 37+45		0.0"	14.3	91.4
11	STATION 38+25		0.0"	13.2	92.5
12	STATION 38+95		3'6"	12.6	90.5
13	STATION 39+50		4'0"	13.9	91.6
14	STATION 38+75		2'6"	14.1	93.0
15	STATION 39+40		3'0"	13.0	92.1
16	STATION 40+05		4'0"	12.2	95.3

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-26-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- ☒ STANDARD AASHO T-99

116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 95 %

NO. OF TESTS THIS DATE 29

NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
17	STATION 39+00		2'0"	11.7	91.6
18	STATION 40+80		4'0"	13.4	94.5
19	STATION 41+50		4'0"	12.9	93.7
20	STATION 42+20		4'0"	11.9	91.4
21	STATION 39+95		2'6"	12.5	93.1
22	STATION 40+70		2'6"	12.0	92.1
23	STATION 41+45		2'6"	11.5	90.6
24	STATION 42+15		3'0"	12.3	91.4

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-26-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL: ☐ SAND ☐ CLAY ☐ LOAM ☒ ~~CLAYEY~~ SAND

METHOD OF COMPACTION: ☒ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☐ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☒ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ _____

TYPE OF SUBGRADE: ☐ SAND ☐ CLAY ☐ LOAM ☒ ~~CLAYEY~~ SAND

CONDITION OF GRADE: ☐ ROUGH ☒ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☒ HARD ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ ~~XXX~~ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 29
NO. OF TESTS TO DATE

METHOD OF TEST: ☐ SAND CONE ☐ BALLOON ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
25	STATION 40+25		1'6"	13.5	91.0
26	STATION 40+90		0.0"	12.6	92.3
27	STATION 41+65		0'6"	13.1	91.5
28	STATION 42+10		1'0"	12.5	93.1
29	STATION 39+60		1'0"	11.8	91.5

REMARKS:

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MATERIALS INSPECTION & TESTING, INC.

PHONE (219) 489-1567 - 3807 GOSHEN ROAD - FORT WAYNE, INDIANA 46818

MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-27-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 82 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %

NO. OF TESTS THIS DATE 28

NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 42+85		4'0"	11.7	93.4
2	STATION 43+60		4'0"	12.2	94.3
3	STATION 44+30		4'0"	11.1	92.0
4	STATION 44+85		4'0"	11.5	95.1
5	STATION 42+00		0.0"±	11.9	94.2
6	STATION 39+15		0.0"±	10.8	92.1
7	STATION 39+95		0.0"±	11.3	91.7
8	STATION 40+65		0.0"±	12.3	93.1

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNG ENVIRONMENTAL
CLIENT JOB #
DATE 7-27-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 82 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 28
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
9	STATION 42+75		2'6"	13.3	95.5
10	STATION 43+50		3'0"	12.9	94.3
11	STATION 44+20		2'6"	13.7	92.2
12	STATION 44+90		3'0"	12.5	91.2
13	STATION 45+40		4'0"	11.6	92.0
14	STATION 45+95		4'0"	10.6	90.9
15	STATION 46+75		4'0"	9.9	90.9
16	STATION 43+00		0.0"	10.9	91.5

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-27-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 82 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL: ☐ SAND ☐ CLAY ☐ LOAM ☒ CLAYEY SAND

TYPE OF SUBGRADE: ☐ SAND ☐ CLAY ☐ LOAM ☒ CLAYEY SAND

METHOD OF COMPACTION: ☒ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☐ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☒ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ _____

CONDITION OF GRADE: ☐ ROUGH ☒ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☒ HARD ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 28
NO. OF TESTS TO DATE

METHOD OF TEST: ☐ SAND CONE ☐ BALLOON ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
17	STATION 42+90		1'0"	14.3	90.6
18	STATION 43+45		2'0"	13.0	90.0
19	STATION 43+75		1'0"	13.9	95.4
20	STATION 44+50		1'0"	12.6	96.3
21	STATION 45+00		2'0"	11.6	92.1
22	STATION 45+65		3'0"	10.0	90.8
23	STATION 46+40		3'0"	11.1	94.0
24	STATION 43+70		0.0"	12.0	90.8

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-27-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 75 ° TO 82 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY

- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-14 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 28
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☐ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
25	STATION 44+40		0.0"	11.8	96.0
26	STATION 45+25		1'0"	10.6	91.7
27	STATION 46+00		2'0"	11.7	91.2
28	STATION 46+70		2'0"	10.9	93.3

REMARKS:

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PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-28-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☐ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☒ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-18 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- ☒ STANDARD AASHO T-99

116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 24
NO. OF TESTS TO DATE _____

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 47+45	4'0"	13.0	95.6
2	STATION 48+20	4'0"	10.2	91.2
3	STATION 46+25	0.0"±	9.6	93.5
4	STATION 47+00	0.0"±	11.3	92.0
5	STATION 47+25	2'6"	11.0	91.6
6	STATION 48+00	2'6"	13.3	93.1
7	STATION 47+75	1'0"	10.7	96.1
8	STATION 48+45	3'0"	10.9	95.0

REMARKS:

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PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-28-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☐ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-18 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- XXX STANDARD AASHO T-99

116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %

NO. OF TESTS THIS DATE 24

NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
9	STATION 48+90	3'6"	12.2	92.5
10	STATION 49+70	4'0"	11.7	93.6
11	STATION 50+50	4'0"	12.0	90.7
12	STATION 51+75	3'6"	10.0	93.5
13	STATION 48+75	2'0"	12.3	92.3
14	STATION 49+50	2'0"	11.1	94.1
15	STATION 49+80	3'0"	11.6	92.1
16	STATION 50+25	2'0"	10.7	91.8

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-28-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED BLUE RIVER AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☐ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-18 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 24
NO. OF TESTS TO DATE _____

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
17	STATION 50+75	3'6"	10.6	94.3
18	STATION 51+90	2'0"	10.2	92.0
19	STATION 51+50	2'6"	9.9	91.0
20	STATION 49+25	1'0"	10.5	92.5
21	STATION 49+00	0.0"±	11.7	93.3
22	STATION 50+65	0.0"±	12.0	91.1
23	STATION 51+20	1'6"	10.9	94.3
24	STATION 51+60	0.0"±	11.1	90.8

REMARKS:

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PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 7-29-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 75 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED COLLINS STREET - MANHOLE

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ ———

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☐ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ ———

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-16 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL
- ☐ MODIFIED AASHO T-180
- ☒ STANDARD AASHO T-99

119.7 #/CU. FT. OPTIMUM MOISTURE 9.2 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 8
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 17+30	4'0"	8.9	95.5
2	STATION 17+30	3'0"	8.6	96.1
3	STATION 17+30	2'0"	7.9	95.3
4	STATION 17+30	1'0"	8.4	96.3
5	STATION 17+18	4'0"	8.8	95.4
6	STATION 17+18	3'0"	9.2	96.0
7	STATION 17+18	2'0"	8.1	95.1
8	STATION 17+15	1'0"	9.0	96.4

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 8-1-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 80 ° TO 85 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED NKAR LANDFILL AREA

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☐ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY

- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-18 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 8
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 53+65	4'0"	9.5	95.1
2	STATION 53+75	2'6"	9.3	95.8
3	STATION 54+15	4'0"	10.2	94.2
4	STATION 54+90	3'0"	10.8	93.6
5	STATION 55+50	4'0"	9.1	92.3
6	STATION 53+70	0.0"	11.1	91.5
7	STATION 54+45	2'0"	9.8	90.8
8	STATION 54+50	0.0"	10.1	92.3

REMARKS:

FORM 106

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 8-2-94 PAGE 1

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLOUDY TEMP. RANGE 80 ° TO 85 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED WASTEWATER TREATMENT PLANT

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

TYPE OF SUBGRADE
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ CLAYEY SAND

METHOD OF COMPACTION
- ☐ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☒ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☒ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-18 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 16.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 14
NO. OF TESTS TO DATE

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ NUCLEAR-DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 7+80		4'0"	14.0	93.1
2	STATION 7+05		4'0"	13.2	91.5
3	STATION 7+70		2'6"	12.5	92.2
4	STATION 7+70		2'6"	12.1	91.8
5	STATION 6+50		4'0"	13.0	92.0
6	STATION 6+00		4'0"	13.0	92.0
7	STATION 6+45		3'0"	12.3	91.3
8	STATION 6+80		2'0"	12.6	92.1

REMARKS:

MIT INCORPORATED

MATERIALS INSPECTION & TESTING, INC.

PHONE (219) 489-1557 • 3807 GOSHEN ROAD • FORT WAYNE, INDIANA 46818

MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 8-2-94 PAGE 2

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLOUDY TEMP. RANGE 80 ° TO 85 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED WASTEWATER TREATMENT PLANT

TYPE OF FILL ☐ SAND ☐ CLAY ☐ LOAM ☒ CLAYEY SAND

METHOD OF COMPACTION ☐ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☒ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☒ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ _____

TYPE OF SUBGRADE ☐ SAND ☐ CLAY ☐ LOAM ☒ CLAYEY SAND

CONDITION OF GRADE ☐ ROUGH ☒ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☒ HARD ☐ RUTTED

THICKNESS OF LIFTS 12-18 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 14
NO. OF TESTS TO DATE

METHOD OF TEST ☐ SAND CONE ☐ BALLOON ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
9	STATION 7+85		0.0"	12.0	92.5
10	STATION 7+10		0.0"	12.5	92.2
11	STATION 6+90		1'6"	13.2	91.0
12	STATION 5+30		4'0"	11.7	90.5
13	STATION 5+00		2'0"	10.9	91.6
14	STATION 4+90		0.0"±	12.1	90.4

REMARKS:

MIT

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 8-3-94 PAGE 1

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 78 ° TO 85 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED WASTEWATER TREATMENT PLANT

TYPE OF FILL ☐ SAND ☐ CLAY ☐ LOAM ☑ CLAYEY SAND

METHOD OF COMPACTION ☐ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☑ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☐ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ _____

TYPE OF SUBGRADE ☐ SAND ☐ CLAY ☐ LOAM ☑ CLAYEY SAND

CONDITION OF GRADE ☐ ROUGH ☐ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☑ HARD ☐ RUTTED

THICKNESS OF LIFTS 12-18 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 16
NO. OF TESTS TO DATE

METHOD OF TEST ☐ SAND CONE ☐ BALLOON ☑ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 4+25		3'0"	11.3	91.1
2	STATION 4+00		4'0"	10.5	90.3
3	STATION 3+60		4'0"	12.1	92.0
4	STATION 3+00		4'0"	11.7	91.3
5	STATION 2+30		3'6"	10.8	90.5
6	STATION 1+18		3'6"	8.1	95.0
7	STATION 1+25		2'0"	8.5	95.3
8	STATION 1+35		0.0"	8.9	95.6

REMARKS:

MIT

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 8-3-94 PAGE 2

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 80 ° TO 85 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED WASTEWATER TREATMENT PLANT

TYPE OF FILL ☐ SAND ☐ CLAY ☐ LOAM ☑ CLAYEY SAND

METHOD OF COMPACTION ☐ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☑ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☐ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ _____

TYPE OF SUBGRADE ☐ SAND ☐ CLAY ☐ LOAM ☑ CLAYEY SAND

CONDITION OF GRADE ☐ ROUGH ☑ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☑ HARD ☐ RUTTED

THICKNESS OF LIFTS 12-18 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 ☒ STANDARD AASHO T-99 116.3 #/CU. FT. OPTIMUM MOISTURE 14.2 %

DENSITY REQUIRED 90 %
NO. OF TESTS THIS DATE 14
NO. OF TESTS TO DATE

METHOD OF TEST ☐ SAND CONE ☐ BALLOON ☑ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
9	STATION 4+15		2'6"	11.0	91.5
10	STATION 3+50		2'0"	12.3	90.8
11	STATION 2+25		2'0"	10.5	91.0
12	STATION 4+20		0.0"	10.7	92.2
13	STATION 3+50		0.0"	11.3	90.3
14	STATION 2+30		0.0"	12.0	93.3

REMARKS:

FORM 106

MIT

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MATERIALS INSPECTION & TESTING, INC.

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 8-5-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER PARTLY CLOUDY TEMP. RANGE 70 ° TO 75 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED COESSE STREET

TYPE OF FILL
- ☐ SAND
- ☐ CLAY
- ☐ LOAM
- ☒ B-BORROW

TYPE OF SUBGRADE
- ☐ SAND
- ☒ CLAY
- ☐ LOAM
- ☐ _____

METHOD OF COMPACTION
- ☒ VIBRATORY PLATE
- ☐ PNEUMATIC TAMP.
- ☐ SHEEPSFOOT
- ☐ RUBBER TIRED
- ☐ STEEL WHEEL
- ☐ VIB. STEEL WHEEL
- ☐ VIB. PNEUMATIC
- ☐ _____

CONDITION OF GRADE
- ☐ ROUGH
- ☒ SMOOTH
- ☐ WET
- ☐ DRY
- ☐ FROZEN
- ☐ LOOSE
- ☒ HARD
- ☐ RUTTED

THICKNESS OF LIFTS 12-16 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL ☐ MODIFIED AASHO T-180 XXX STANDARD AASHO T-99 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 8
NO. OF TESTS TO DATE _____

METHOD OF TEST
- ☐ SAND CONE
- ☐ BALLOON
- ☒ ~~NUCLEAR~~ DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.	LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 29+50	3'0"	7.0	95.2
2	STATION 29+45	2'6"	6.7	95.7
3	STATION 29+18	3'0"	7.6	96.1
4	STATION 29+05	3'6"	7.3	95.0
5	STATION 29+30	2'0"	6.9	96.3
6	STATION 29+20	1'0"	6.4	95.0
7	STATION 29+45	1'0"	7.5	95.8
8	STATION 29+10	1'0"	6.8	95.2

REMARKS:

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB #
DATE 8-26-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLOUDY TEMP. RANGE 68 ° TO 80 °

CONTRACTOR YOUNGS AREA WORKED WATERLINE

TYPE OF FILL: ☒ SAND ☐ CLAY ☐ LOAM ☐ ____

METHOD OF COMPACTION: ☒ VIBRATORY PLATE ☐ PNEUMATIC TAMP. ☐ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☐ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ ____

TYPE OF SUBGRADE: ☐ SAND ☒ CLAY ☐ LOAM ☐ ____

CONDITION OF GRADE: ☐ ROUGH ☒ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☒ HARD ☐ RUTTED

THICKNESS OF LIFTS 12 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL XXX MODIFIED AASHO T-180 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %
☐ STANDARD AASHO T-99

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 8
NO. OF TESTS TO DATE

METHOD OF TEST: ☐ SAND CONE ☐ BALLOON ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS					
TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 27+95		8.0'±	8.0	96.7
2	STATION 27+95		7.0'±	8.5	95.8
3	STATION 27+95		6.0'±	8.3	96.3
4	STATION 27+95		5.0'±	8.4	95.9
5	STATION 27+95		4.0'±	7.5	95.8
6	STATION 27+95		3.0'±	7.8	96.0
7	STATION 27+95		2.0'±	7.4	95.0
8	STATION 27+95		0.5'±	7.4	96.1

REMARKS:

MIT INCORPORATED

MATERIALS INSPECTION & TESTING, INC.

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MIT JOB # 94-200/Y
PROJECT WAYNE RECLAMATION SITE
CLIENT YOUNGS ENVIRONMENTAL
CLIENT JOB # _____
DATE 8-29-94

SOILS INSPECTION

DAILY REPORT FORM

WEATHER CLEAR TEMP. RANGE 65 ° TO 80 °

CONTRACTOR YOUNGS ENVIRONMENTAL AREA WORKED PIPE TRENCH

TYPE OF FILL: ☒ SAND ☐ CLAY ☐ LOAM ☐ _____

TYPE OF SUBGRADE: ☐ SAND ☒ CLAY ☐ LOAM ☐ _____

METHOD OF COMPACTION: ☐ VIBRATORY PLATE ☒ PNEUMATIC TAMP. ☐ SHEEPSFOOT ☐ RUBBER TIRED ☐ STEEL WHEEL ☐ VIB. STEEL WHEEL ☐ VIB. PNEUMATIC ☐ _____

CONDITION OF GRADE: ☐ ROUGH ☒ SMOOTH ☐ WET ☐ DRY ☐ FROZEN ☐ LOOSE ☒ HARD ☐ RUTTED

THICKNESS OF LIFTS 12 INCHES

PLANNED DEPTH OF FILL VARIES FT. PLACED TO DATE VARIES FT.

MAX. DENSITY OF MATERIAL XXX MODIFIED AASHO T-180 119.7 #/CU. FT. OPTIMUM MOISTURE 9.8 %
☐ STANDARD AASHO T-99

DENSITY REQUIRED 95 %
NO. OF TESTS THIS DATE 8
NO. OF TESTS TO DATE _____

METHOD OF TEST: ☐ SAND CONE ☐ BALLOON ☒ NUCLEAR DENSITY

LOCATIONS AND RESULTS OF TESTS

TEST NO.		LOCATION	DEPTH BELOW FINISHED GRADE	PERCENT MOISTURE	PERCENT COMPACTION
1	STATION 25+50		7.0'±	7.9	95.3
2	STATION 25+50		6.0'±	7.7	95.6
3	STATION 25+50		5.0'±	8.1	96.1
4	STATION 25+50		4.0'±	7.6	95.5
5	STATION 25+50		3.0'±	8.3	96.3
6	STATION 25+50		2.0'±	8.1	97.2
7	STATION 25+50		1.0'±	8.5	96.1
8	STATION 25+50		0.0"±	8.7	95.8

REMARKS:

D

CHANGE ORDERS & FIELD ORDERS

D1

CHANGE ORDERS

PLEASE PROCESS WITHOUT DELAY

Pg. 1 of 5
Including Attachments

CONTRACT CHANGE ORDER

NO. 2

IF APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

To: MIKE RILEY	Date: 10/20/94	Project No.: 250146
Contract: WRR RA CONSTRUCTION	Work Item Affected: Well Drilling	Owner: WRR RD/RA SETTLORS

Item No. — Written Description of Change and Reason
Include Affect on Completion Schedule.

1. Provide QUOTATION to PURCHASE AND INSTALL completed seven new SVE WELLS (#49-55) in the AST/UST area as shown on the attached drawing. QUOTATION shall include ALL ASSOCIATED PIPING AND CONTROL to TIE INTO the EXISTING DESIGN.

The time provided for completion in the contract is (*unchanged*) *(increased) (decreased) by* 0 *calendar days.*

Recommended by: Ben H. Grasty 10/20/94
Engineer — Date

Engineer Comment: CHANGE ORDER VERBALLY APPROVED by JOHN FEHRENBACH ON 10/3/94.

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM — Date

U.S. EPA Comment: _____

Final Disposition (circle one): ACCEPTED REJECTED _____ / _____
Engineer — Date

This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

USE PG. 2 FOR IDENTIFICATION OF COST IMPACT, IF ANY. IF NO COST IMPACT CHECK HERE ____.

ARZYN

PLEASE PROCESS WITHOUT DELAY

CONTRACT CHANGE ORDER

NO. 3-1

APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

o: Mike Kiley	Date: 9.15.94	Project No.: 250146
ontract: WRR RA CONSTRUCTION	Work Item Affected:	Owner: WRR RD/RA SETTLORS
	Forcemain	

em Written Description of Change and Reason
o. Include Affect on Completion Schedule.

Provide quotation to perform a horizontal guided bore of a 10 inch polyethylene pipe beneath State Route #9 to allow installation of the 6 inch polyethylene forcemain piping within the 10 inch piping. The Indiana Department of Transportation will not allow an open cut excavation accross State Route #9 as originally intended. Weston's proposal should include all costs associated with this work. It is specifically noted that installation of the 6 inch polyethylene forcemain piping is not included in the unit pricing for this Change Order. Installation of the 6 inch polyethylene piping will be paid per the unit pricing established in the contract documents. It is also specifically noted that the contractor shall be responsible for obtaining the necessary permits to conduct this work.

The time provided for completion in the contract is (unchanged) *(increased) (decreased) by* 0 *calendar days.*

Recommended by: Ben McGeachy / 9.15.94
Engineer Date

En neer Comment: This change order does not imply any changes to the specifications in the Blue River crossings. Changes in the Blue River crossings methodologies will be covered by Field Order #1.

U. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM Date

U.S. EPA Comment:

Fi..al Disposition (circle one): ACCEPTED REJECTED. _____ / _____
Engineer Date

This document shall become an amendment to the contract and all provisions of the contract will apply hereto.
U. : PG. 2 FOR IDENTIFICATION OF COST IMPACT, IF ANY. IF NO COST IMPACT CHECK HERE ____.

ARCADIS

PLEASE PROCESS WITHOUT DELAY

CONTRACT CHANGE ORDER

NO. 4

If APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

To: Mike Riley	Date: 8-31-94	Project No.: 250146
Contract: WRR RA CONSTRUCTION	Work Item Affected: Construction of Pretreatment Bldg.	Owner: WRR RD/RA SETTLORS

Item No. Written Description of Change and Reason
Include Affect on Completion Schedule.

Provide additional openings and connections for steel TANK No. T-1 and polyethylene TANK No. T-2 as described below.

TANK No. T-1

1. Mark J at top at 90 degrees, 1½ inch flange connection
2. Mark K at top at 315 degrees, 1 inch flange connection
3. Mark L at top At 70 degrees, 8 inch hinged cover

TANK No. T-2

1. Mark F at top, 8 inch viewport

The time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 *calendar days.*

Recommended by: Ben McGeady / 8-31-94
Engineer / Date

Engineer Comment: Reference Design Drawing 70210-D25 (C21).

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM / Date

U.S. EPA Comment:

Final Disposition (circle one): ACCEPTED REJECTED _____ / _____
Engineer / Date

This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

SEE PG. 2 FOR IDENTIFICATION OF COST IMPACT, IF ANY. IF NO COST IMPACT CHECK HERE ____.

PLEASE PROCESS WITHOUT DELAY

CONTRACT CHANGE ORDER

NO. 6

APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

: MIKE RILEY	Date: 9-7-94	Project No.: 250146
ıntract: WRR RA CONSTRUCTION	Work Item Affected: FORCEMAIN	Owner: WRR RD/RA SETTLORS

m Written Description of Change and Reason
). Include Affect on Completion Schedule.

Provide pricing to restore roadways disturbed during construction of the forcemain as follows (from top to bottom):

- 1 inch bituminous surface course mixture #11
- 3 inch bituminous binder course mixture #9
- 5 inch #73 limestone (11 inch where concrete base is removed)

Reference design drawing 89570-07 for original street restoration detail.

he me provided for completion in the contract is (unchanged) *(increased) (decreased) by* 0 *calendar days.*

ecommended by: Ben McGeachy / BTM 9.7.94
Engineer Date

ng ieer Comment: Changes made to design at the direction of Tony Zickgraf of Columbia City Department of Public Works on September 6, 1994.

I.S EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM Date

I.S EPA Comment: _____

inal Disposition (circle one): ACCEPTED REJECTED _____ / _____
Engineer Date

his document shall become an amendment to the contract and all provisions of the contract will apply hereto.
S PG. 2 FOR IDENTIFICATION OF COST IMPACT, IF ANY. IF NO COST IMPACT CHECK HERE ____.

ERZYN

PLEASE PROCESS WITHOUT DELAY

CONTRACT CHANGE ORDER

NO. 7

F APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

o: JOE JANKOWSKI	Date: 10/11/94	Project No.: 250146
ontract: WRR RA CONSTRUCTION	Work Item Affected:	Owner: WRR RD/RA SETTLORS
	TREATMENT BUILDING	

tem Written Description of Change and Reason
io. Include Affect on Completion Schedule.

1 Provide pricing to supply an 800 amp site safety switch in place of the specified 600 amp site safety switch.

The time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Ben McGeachy / 10/11/94
Engineer Date

E ineer Comment: CHANGE ORDER REQUESTED AND PRICING INFORMATION reviewed by electrical engineer Nick Hendrickson of Montgomery WATSON.

U . EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM Date

U.S. EPA Comment:

Final Disposition (circle one): ACCEPTED REJECTED _____ / _____
Engineer Date

This document shall become an amendment to the contract and all provisions of the contract will apply hereto.
E PG. 2 FOR IDENTIFICATION OF COST IMPACT, IF ANY. IF NO COST IMPACT CHECK HERE ____.

PLEASE PROCESS WITHOUT DELAY

CONTRACT CHANGE ORDER

NO. 5

A 'ROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

: Mike Riley	Date: 10/20/94	Project No.: 250146
ıct: WRR RA CONSTRUCTION	Work Item Affected: FORCEMAIN	Owner: WRR RD/RA SETTLORS

m Written Description of Change and Reason
). Include Affect on Completion Schedule.

Provide quotation to modify tap in of the forcemain into the grit chamber of the wastewater treatment plant as outlined in the attached proposal.

he me provided for completion in the contract is (unchanged) (increased) (decreased) by 0 *calendar days.*

ec nmended by: Ken Hegerty 10/26/94
Engineer Date

ngineer Comment:

.S. EPA Review: ____ / ____ U.S. EPA Attachments: Yes / No
RPM Date

.S EPA Comment:

ir l Disposition (circle one): ACCEPTED REJECTED ____ / ____
Engineer Date

h document shall become an amendment to the contract and all provisions of the contract will apply hereto.
SE PG. 2 FOR IDENTIFICATION OF COST IMPACT, IF ANY. IF NO COST IMPACT CHECK HERE ____.

C.O. #3

Ayres, Lewis, Norris & May, Inc.
Engineers • Planners • Surveyors
2999 Research Park Drive
Ann Arbor, Michigan 48108
313/971-1971
313/971-1999 (FAX)

CONTRACT CHANGE
ORDER NO. 8

Provide pricing to change the force main connection detail at the Grit Building to the details as shown on Attachments 1 and 2. Also to make the following changes:

1. Delete concrete wall core and Thunderline link seal.

2. Delete spool piece of ductile iron pipe.

3. Change pipe termination to the detail shown on Attachment No. 2.

4. Pipe insulation and heat trace, as called for on Attachment No. 2, shall be as follows:

   a) Provide factory pre-molded, shop or site mitered glass fiber segment type insulation for pipe and pipe fittings. Fitting insulation to be of same thickness and material as adjoining pipe insulation. All insulation and related materials such as tape and mastic to meet national and model building code requirements for fire and smoke development.

   b) Provide factory-formed, fiberglass pipe insulated factory-jacketed "system" type conforming strictly to fire-resistive qualities specified as follows:

      > All insulation, adhesives, coatings, sealers, tapes, shall have a flame spread rating of 25 or less and smoke development of 50 or less when tested in accordance with ASTM E-84, NFPA 225, UL 723, and further must meet the requirements of NFPA 90-A where applicable and local mechanical codes.

   c) Jacket to be fiberglass reinforced kraft paper with aluminum foil.

d) Provide smooth .016" aluminum jacket over all insulated piping, fittings and tank connections for weather protection. Use stainless steel bands with 1/2" strips for fastening.

e) Provide heat trace tape, tees, terminations power kits, and all accessories as required to be applied to piping.

1) Cable voltage rated at 120V.

2) Cable capable of 3 watts/linear foot.

3) Cable to be self regulating type, 150°F maximum operating temperature.

4) Provide (1) ambient temperature sensor, adjustable from 15 - 140°F to cut power above 45°F to all circuits.

5) Provide (1) line sensing stat per circuit, adjustable from 25°F - 100°F minimum. Set at 45°F to regulate power.

6) Provide ET labels for all piping and accessories heat traced, spaced at 10'-0" maximum.

7) All power connection boxes shall be provided with J-boxes.

8) Complete system to be weather-proofed, by Chemelex Auto Trace Mod. SRL-3.1.

f) No insulation shall be cut where floor stands are located. If hangers have been installed which violates this strict requirement notify the Engineer immediately. Piping systems shall be tested and found free of all leaks prior to installation of insulation covering.

g) All surfaces shall be clean and dry when covering is applied. Covering to be dry when installed and before and during application of any finish, unless such finish requires specifically a wetted surface for application.

h) All adhesives, cements, and mastics shall be compatible with materials applied and shall not attach materials in either wet or dry state.

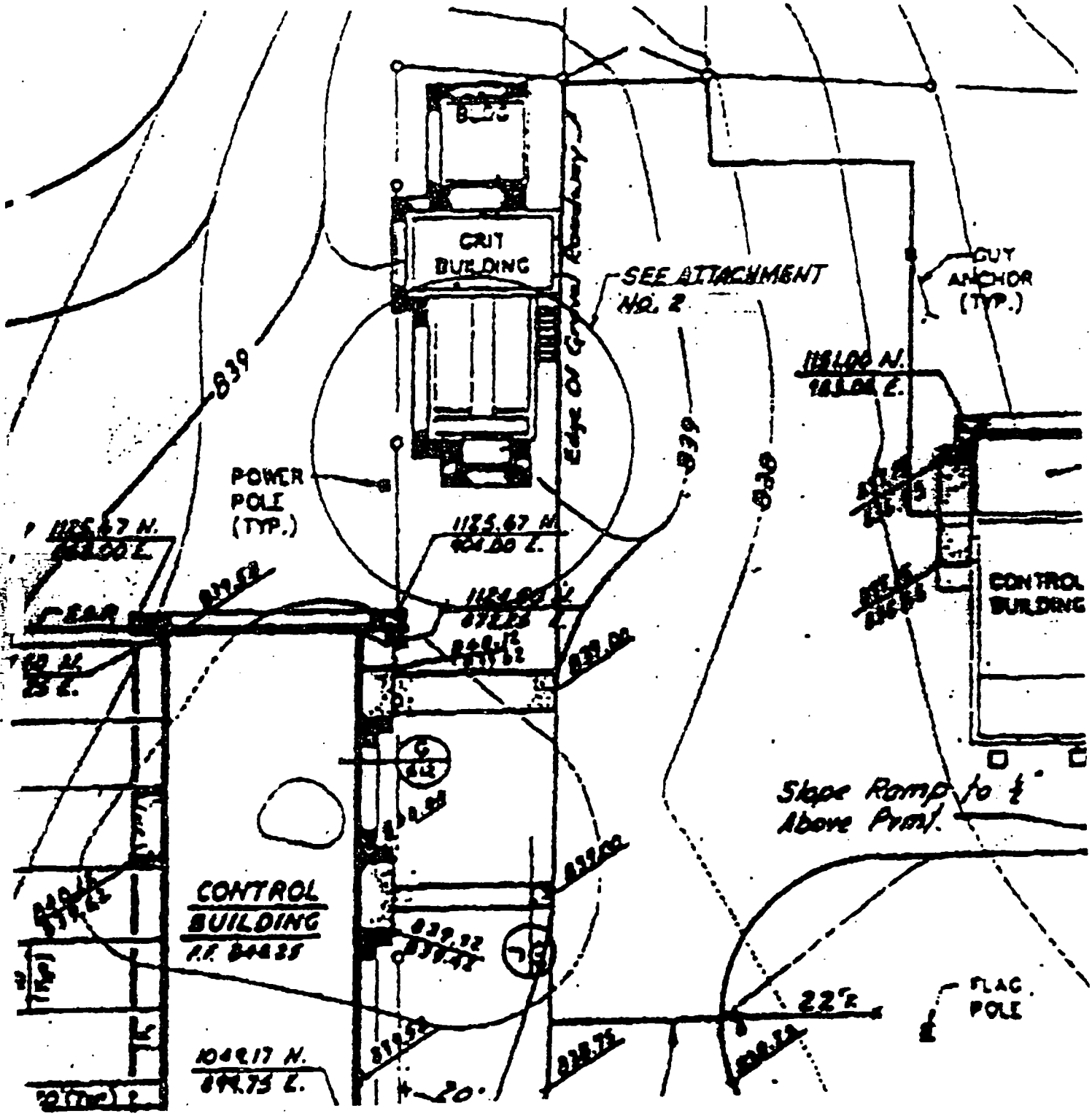
i) Install insulation using professional insulators who have adequate experience and ability, and per manufacturers instructions.

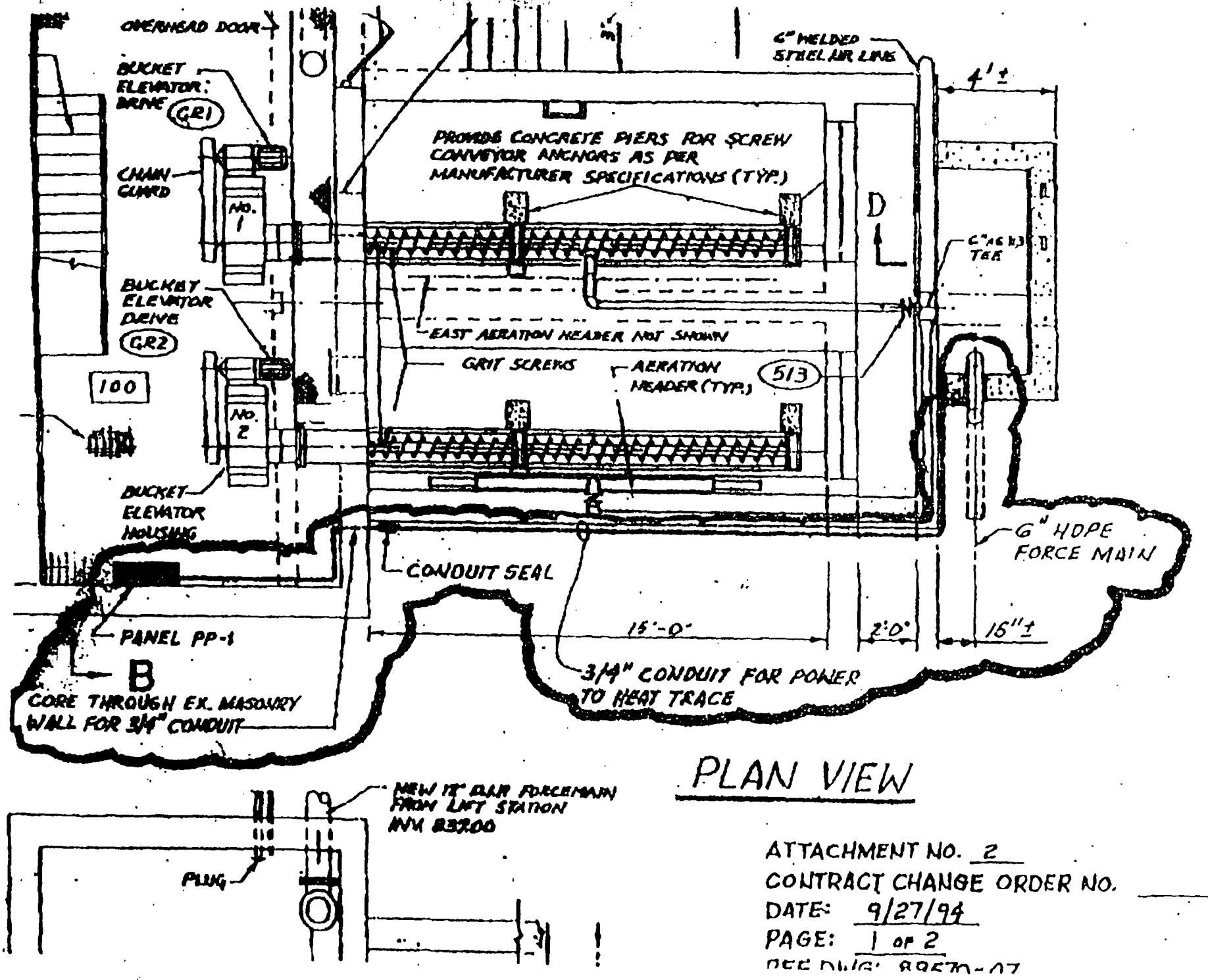
j) Pre-molded fitting covers (inserts) to be precisely cut of mitered to fit or be tucked snugly into the throat of fitting and edges adjacent to pipe covering, tufted, tucked, taped, etc., to form a fully insulated pipe covering. Use adhesive and/or tape specified for type of insulation to ensure a thorough vapor barrier.

k) Seal ends securely to prevent any moisture from entering into the insulation.

ATTACHMENT NO. 1
CONTRACT CHANGE ORDER NO. _____
DATE: 9/27/94
PAGE: 1 OF 1
REF. DWG. 89570-07

FOR CONTINUATION OF GEOMETRIC AND SITE PL

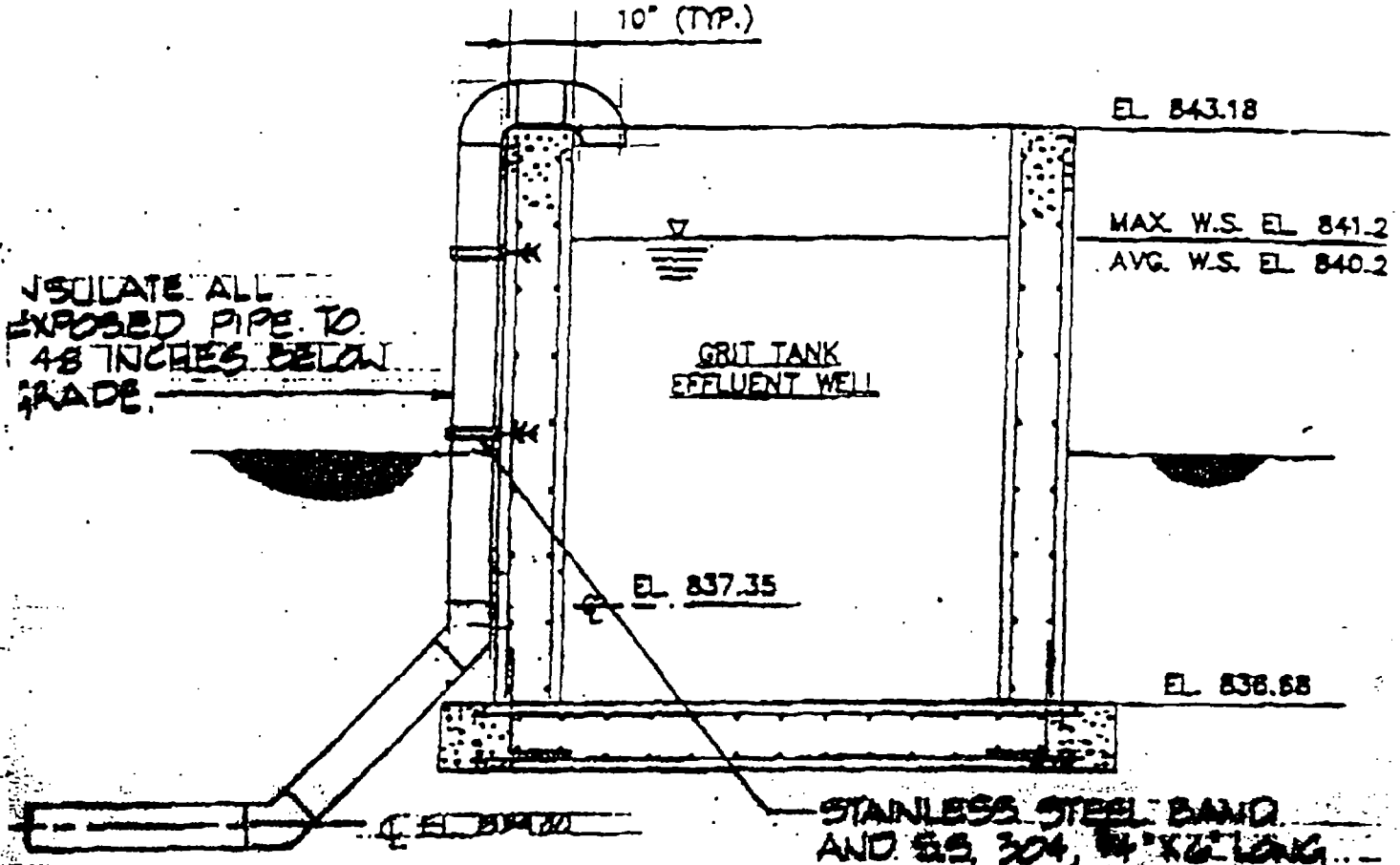




PLAN VIEW

ATTACHMENT NO. 2
CONTRACT CHANGE ORDER NO.
DATE: 9/27/94
PAGE: 1 OF 2

ATTACHMENT NO. 2
CONTRACT CHANGE ORDER NO. 1
DATE: 9/27/94
PAGE: 2 of 2
REF. DWG: 89570-07



NOTE:
EXCAVATION FOR THE FORCE MAIN NEAR THE GRIT TANK MUST BE DONE IN A MANNER THAT WILL NOT UNDERMINE ANY PART OF THE GRIT TANKS.

FORCE MAIN CONNECTION AT GRIT BUILDING

D2

FIELD ORDERS

WARZYN

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO. 1

You are hereby requested to comply with the following changes from the contract plans and specifications.

To: Mike Riley	Date: 7.5.94	Project No.: 250146
Contract: Weston job # 10702	Work Item Affected: Clearing and Site Preparation	Owner: HRR Non-City Sectors

Item No.	Written Description of Change and Reason Include Affect on Completion Schedule.	Attachments, References, Affected Contract Documents
1.	Relocate center line of gravel access road approximately 20 ft North of location shown on design drawing 70210-D12. Relocating the gravel access road will accomplish the following:	None
	a. Avoid construction of access road through existing tree/shrub line.	
	b. Avoid possible damage to monitoring wells MW85 and MW87. and	
	c. Avoid relocating the large utility pole which is located approximately 60 ft west of the western side of the treatment building.	
	The location of the treatment building will remain as shown on design drawing 70210-D12.	

The time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Ben McGeachy / Ben McGeachy
Engineer

Engineer Comment: Relocation of gravel access road in consistent with Note #12 on design drawing 70210-D12 which reads: "Locate new gravel road to pre-treatment building to minimize clearing of trees and brush".

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment: _____

Approved by: _____ / _____
Owner

Accepted by: [signature] / 7/7/94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO. 2

You are hereby requested to comply with the following changes from the contract plans and specifications.

To: MIKE KILEY	Date: 7-6-94	Project No.: 250146
Contract: WESTON JOB # 10752	Work Item Affected: FORCEMAIN	Owner: WRR NON-CITY SETTLERS

Item No.	Written Description of Change and Reason Include Affect on Completion Schedule.	Attachments, References, Affected Contract Documents
1.	CHANGE THE SLOPE OF THE FORCEMAIN AS SHOWN ON THE ATTACHED TABLE PAGE 3 OF 3. THE TABLE DETAILS MODIFIED STATIONING AND SLOPES. THESE NEW SLOPES SHOULD RESULT IN A MORE POSITIVE ACTING SYSTEM AND STILL MAINTAIN THE SAME NUMBER OF AIR RELEASE VALVES.	PG. 2 OF 3 - COVER LETTER FROM AYERS, LEWIS, NORTH & MAY OUTLINING CHANGES PG. 3 OF 3 - TABLE DETAILING MODIFIED STATIONING AND SLOPES.

The time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Ben McGeachy / BEN MCGEACHY
Engineer

Engineer Comment: NONE.

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment: _____

Approved by: _____ / _____
Owner

Accepted by: Michael T. Riley / 7/7/94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount.
This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

PLEASE PROCESS WITHOUT DELAY

WARZYN

FIELD ORDER

NO. 3

You are hereby requested to comply with the following changes from the contract plans and specifications.

To: Mike Riley	Date: 7-14-94	Project No.: 250146
Contract: WESTON JOB # 10702	Work Item Affected: CLEARING AND SITE PREPARATION	Owner: WRR - NON-CITY SECTIONS
Item No. Written Description of Change and Reason Include Affect on Completion Schedule.		Attachments, References, Affected Contract Documents
1. CHANGE THE ELEVATION of coordinate points 16, 17, 18 AND 19 AS defined ON design drawing 70210DIE (C8) from elevation 830.00 to elevation 832.00. This CHANGE IS being MADE to avoid run off from the gravel access road running ON to the DECONTAMINATION PAD.		NONE

The time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Ben McGuckin / BTM
Engineer

Engineer Comment: NONE

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment: _____

Approved by: _____ / _____
Owner

Accepted by: Michael T. Riley / 7/14/94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount.
This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

WRRFO1.XLS
6/30/94

WARZYN

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO. 4

IF APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

To: MIKE RILEY	Date: 8-2-94	Project No.: Z50146
Contract: WESTON JOB # 10702	Work Item Affected: CUT-OFF-WALL	Owner: WRR NON-CITY SETTLORS

Item No.	Written Description of Change and Reason Include Affect on Completion Schedule.	Attachments, References, Affected Contract Documents
1.	RELOCATE THE ALIGNMENT OF THE CUT-OFF-WALL AS SHOWN ON THE ATTACHED SKETCH. THE RE-ALIGNMENT OF THE CUT-OFF-WALL IS BEING DONE AT THE CONTRACTOR'S REQUEST TO FACILITATE CONSTRUCTION OF THOSE SEGMENTS OF THE CUT-OFF-WALL ALONG THE BLUE RIVER.	PG 2 OF 2 - SKETCH OF CUT-OFF-WALL RE-ALIGNMENT, STAMPED 7-29-94.

The time provided for completion in the contract is (unchanged) (decreased) by 0 calendar days.

Recommended by: Ben McGeachy / BEN MCGEACHY
Engineer

Engineer Comment: NONE.

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

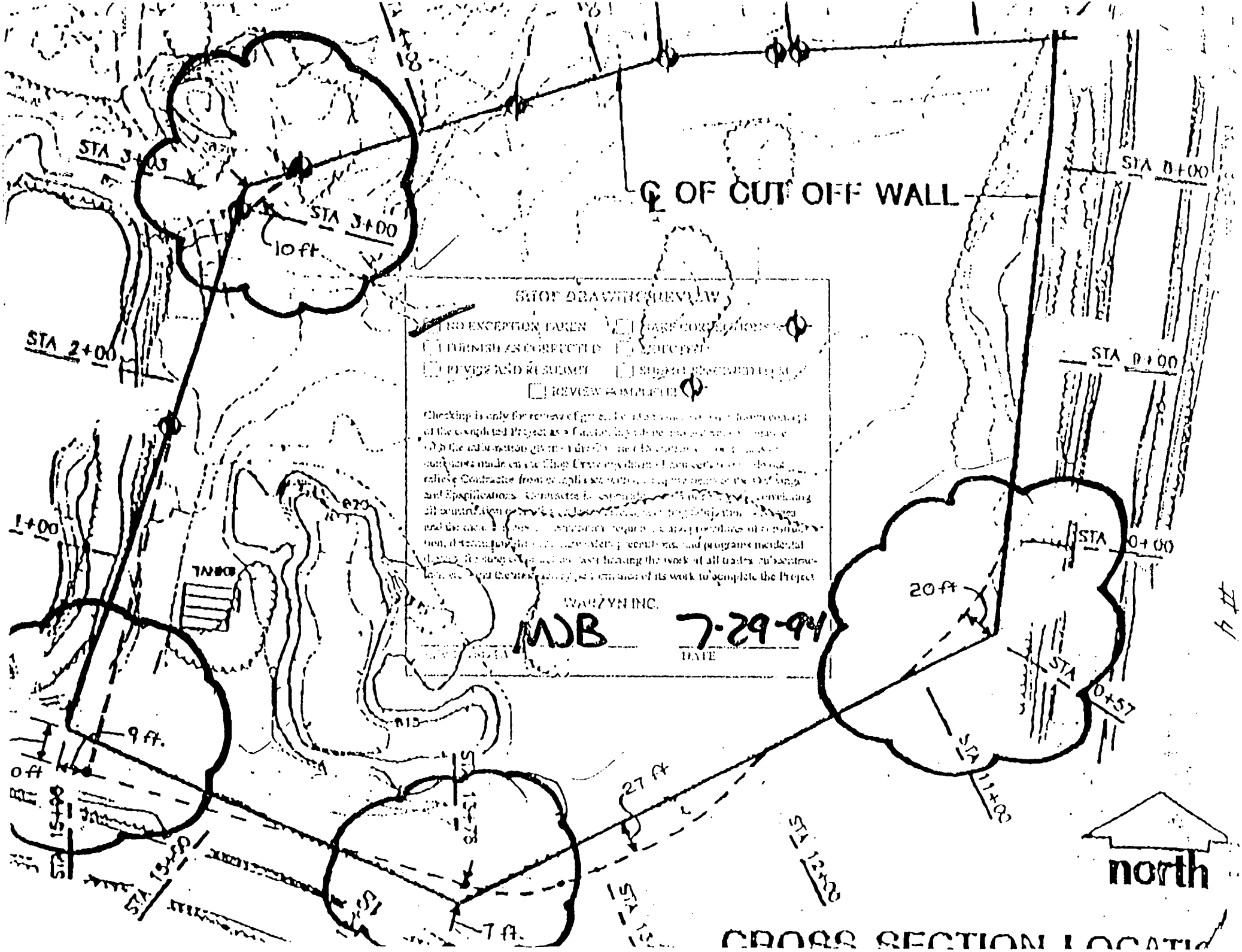
U.S. EPA Comment: _____

Approved by: _____ / _____
PRP Group Representative

Accepted by: Michael T. Daly / 3 Aug 94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount or extension of the contract schedule.

This document shall become an amendment to the contract and all provisions of the contract will apply hereto.


℄ OF CUT OFF WALL
STA 3+00
STA 3+00
10 ft
STA 2+00
STA 0+00
STA 0+00
20 ft
STA 0+57
STA 1+00
9 ft.
0 ft
27 ft
7 ft
north
SHOP DRAWING REVIEW
NO EXCEPTION TAKEN
MAKE CORRECTIONS NOTED
FURNISH AS CORRECTED
REVISE AND RESUBMIT
REJECTED
WARZYN INC.
MJB
7-29-94
DATE

WARZYN

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO. 5

IF APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

To: Mike Riley	Date: 8-5-94	Project No.: 250146
Contract: Weston Job #10702	Work Item Affected: Pretreatment Bldg.	Owner: WLR Non-City Settlors

Item No.	Written Description of Change and Reason Include Affect on Completion Schedule.	Attachments, References, Affected Contract Documents
1.	Revise the exterior surface preparation and coating of steel tanks No. T-1 and No. T-5 as detailed on the attached Field Technical Memorandum No. 7. This revision is being made to avoid the possibility of developing pinholes on the tanks exteriors. It is anticipated that the increased labor costs to apply two coatings to the tanks exteriors will be offset by the decreased labor costs in surface preparation. No increased costs or adjustment of Schedule is anticipated.	Pgs 2 & 3 — Field Technical Memorandum #7 detailing revised surface preparation and coating.

The time provided for completion in the contract is (unchanged), (decreased) by 0 calendar days.

Recommended by: Ben McGeachy BTM
Engineer

Engineer Comment: None

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment: _____

Approved by: _____ / _____
PRP Group Representative

Accepted by: _____ / _____
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount or extension of the contract schedule.

This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

19 2 OF 3 (FIELD ORDER #5)

19 1 OF 2 (TECH. MEMO #7)

FIELD TECHNICAL MEMORANDUM

Mr. Mike Riley
Weston

No. 7

PROJECT Constr. of R.D.
Wayne Reclam. & Eqpt.
Columbia City, IN.
250146

DATE: August 5 19 94

In reply to your request for Field Information, RFI No(s) _____, the following clarification is issued:

The following clarification of the Contract Documents is issued:

Revise Specification Section 11348, Page 7, Part 2.02 & read as follows:

2.02 Protective Coatings

2.02.1 Epoxy Amine Coatings

A. Manufacturers:

1. Wisconsin Protective Coatings, Plasite 7122 HAR
2. Wisconsin Protective Coatings, Plasite 7122

B. Epoxy amine shall have solids content greater than 50% by volume per ASTM D-1697.

C. Minimum of two 8 mil coats of Plasite 7122 HAR applied to inside of tank.

D. Minimum one coat of Plasite 7100 ACP (anti corrosion primer) and one coat of Plasite 7122 applied to outside of tank.

E. Prepare interior surfaces and apply epoxy amine coatings.

TRIBUTION:

BY Dan McGeachy
Resident Engineer

(Field Order # 5) (Tech. Memo # 7)

FIELD TECHNICAL MEMORANDUM

Mr. Mike Lilley
Weston

No. 7

PROJECT Constr. of R.D.
Wayne Reclam & Ecyc.
Columbia City, IN.
#260146

DATE: August 5 1994

In reply to your request for Field Information, RFI No(s) _____, the following clarification is issued:

The following clarification of the Contract Documents is issued:

F. Interiors shall receive two coats of Plasite 7122 HAR. Exterior and all appurtenances such as ladders, platforms, and handrails, shall receive one coat of Plasite ~~70~~ 7100 ACP and one coat of Plasite 7122.

G. Interior surface preparation shall be NACE Procedure No. 1, white metal blast. All radii shall be ground to minimum of 1/8 inch.

H. Exterior surfaces shall be commercial blast surface preparation and coated with one coat of Plasite 7100 ACP and one coat of Plasite 7122.

DISTRIBUTION:

BY Ken McCracken
Resident Engineer

ZRZYN

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO. 6

APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

To: Mike Riley	Date: 8-16-94	Project No.: 250146
Contract: Weston Job #10702	Work Item Affected: Pretreatment Bldg.	Owner: WRL Non-City Settlors

Item No.	Written Description of Change and Reason Include Affect on Completion Schedule.	Attachments, References, Affected Contract Documents
1.	The requirement for ductile iron fittings, such as wyees and tees, on the 4 inch ductile iron sanitary discharge line from the treatment building to the septic holding tank shall be modified to allow use of the appropriate plastic fittings with the ductile iron pipe.	~~None~~ Reference design drawing 70210D20 (C16).

The time provided for completion in the contract is (unchanged) (decreased) by 0 calendar days.

Recommended by: Ben McGeachy/ BTM
Engineer

Engineer Comment: This field order is being issued at the contractors request who is having difficulty obtaining ductile iron fittings.

U.S. EPA Review: _____/_____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment: _____

Approved by: _____/_____
PRP Group Representative

Accepted by: Mitchell T. Kelly 9/1/94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount or extension of the contract schedule.

This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

KARZYN

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO. 7

APPROVED, you are hereby directed to comply with the following changes from the contract plans and specifications.

To: MIKE RILEY	Date: 8-16-94	Project No.: 250146
Contract: WESTON T&D #10702	Work Item Affected: CLEARING AND SITE PREP.	Owner: WRR NON CITY SETTLERS
Item No. Written Description of Change and Reason Include Affect on Completion Schedule.		Attachments, References, Affected Contract Documents
1. A 24 inch diameter slotted corrugated polyethylene pipe may be substituted for the 24 inch diameter slotted corrugated steel pipe in construction of the decontamination pads. The contractor warrants that the strength of the corrugated polyethylene pipe is sufficient for this application.		Reference design drawing 70210 D17 (C/3).

The time provided for completion in the contract is (unchanged) (decreased) by 0 calendar days.

Recommended by: Dan McGeachy / BTM
Engineer

Engineer Comment: This field order is being made at the CONTRACTOR's request.

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment: _____

Approved by: _____ / _____
PRP Group Representative

Accepted by: Michael T. Riley / 9/1/94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount or extension of the contract schedule.

This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

WARZYN

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO. 8

You are hereby requested to comply with the following changes from the contract plans and specifications.

To: Mike Kiley	Date: 8-16-94	Project No.: 23016
Contract: Weston Job #10702	Work Item Affected: Forcemain	Owner: WRA Non-City Sewers

Item No.	Written Description of Change and Reason Include Affect on Completion Schedule.	Attachments, References, Affected Contract Documents
1.	Change the slope of the forcemain as shown on the attached table page 2 of 2. The attached table supercedes those changes in slopes provided in Field Order #2. These changes are being made to correct for incorrect elevations shown along the right hand side of design drawing 89570-01.	Pg. 2 of 2 - table detailing modified stationing AND slopes. / Hand written corrections are INTENTIONAL.

The time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Ben McGuckley / STM
Engineer

Engineer Comment:
Changes made after telephone conversation with Jim Grau of Ayers, Lewis, Norris & May on August 8, 1994

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment:

Approved by: _____ / _____
Owner

Accepted by: Michael T Riley 9/1/94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

VARZYN

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO. 9

u are hereby requested to comply with the following changes from the contract plans and specifications.

: Mike Riley	Date: 8-16-94	Project No.: 250146
ntract: Weston Job # 10702	Work Item Affected: Forcemain	Owner: WRR Non-City Settlors
m Written Description of Change and Reason . Include Affect on Completion Schedule.		Attachments, References, Affected Contract Documents
1. Modify the detail of the air release valve & shut-off valve manhole as shown on the attached figure page 2 of 2. The detail has been modified at the CONTRACTOR'S request to allow connection of the 6" plug valve directly to the tee beneath the air release valve. The detail has been modified at the engineers request to replace the flexible rubber tubing with 2" PVC pipe. The 2" PVC pipe will direct water away from the valve and towards the sump at the bottom of the manhole.		Reference design drawing 89570-07.

ie time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Dan McGuady BTM
Engineer

igineer Comment:
Changes made after telephone conversation with Jim Gray of Tyers, Lewis, Norris & May on August 8, 1994.

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

.S. EPA Comment:

Approved by: _____ / _____
Owner

Accepted by: Michael F. Riley 8/9/1/94
Contractor

y accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount. his document shall become an amendment to the contract and all provisions of the contract will apply hereto.

VARZYN

FIELD ORDER

NO. 10

You are hereby requested to comply with the following changes from the contract plans and specifications.

To: Mike Riley	Date: 9-14-94	Project No.: 25016
Contract: Weston Job #10712	Work Item Affected: Well Drilling	Owner: WRR Non-City Settlors

Item No.	Written Description of Change and Reason Include Affect on Completion Schedule.	Attachments, References, Affected Contract Documents
	The depth of SVE wells SVE14, SVE17, SVE29, and SVE38 shall not exceed the depth of the vadose (unsaturated) zone. The approximate elevation of the bottom of the vadose zone is 810.	None

The time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Ben McGeachy / BM
Engineer

Engineer Comment: Modifications made to avoid the possibility of air from the adjacent air sparge wells short circuiting through the SVE wells.

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment:

Approved by: _____ / _____
Owner

Accepted by: Mark T Ng 9/15/94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

WRRFO1.XLS
6/30/94

MARZYN

FIELD ORDER

NO. 11

You are hereby requested to comply with the following changes from the contract plans and specifications.

: Joe Jankowski	Date: 9/27/94	Project No.: 250146
ntract: WRR RA	Work Item Affected:	Owner: WRR RD/RA
Construction	FORCEMAIN	SETTLERS
m Written Description of Change and Reason		Attachments, References, Affected
). Include Affect on Completion Schedule.		Contract Documents
At the contractor's request, the method for installing the forcemain piping across the Blue River shall be changed from bore & jack to horizontal guided boring (HGB) as outlined in the attached submittal. The HGB method shall be used for the river crossing near the site and the river crossing near the POTW.		WESTON submittal No. 103.

The time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Ben McGeachy BTM
Engineer

Engineer Comment: WESTON submittal No. 103 has been reviewed by Ayers, Lewis, Norris, and May and no exceptions were taken.

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U. EPA Comment: _____

Approved by: _____ / _____
Owner

Accepted by: Joe E. Jankowski / 9-28-94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount.
This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

VARZYN

Pg. 1 of 2
Including Attachments

FIELD ORDER

NO. 12

u are hereby requested to comply with the following changes from the contract plans and specifications.

: JOE JANKOWSKI	Date: 9/27/94	Project No.: 250146
ntract: WRR RA	Work Item Affected:	Owner: WRR RD/RA
C NSTRUCTION	WELL INSTALLATION	SETTLORS
m Written Description of Change and Reason		Attachments, References, Affected
). Include Affect on Completion Schedule.		Contract Documents
AT THE CONTRACTORS request, the location of groundwater recovery well RW5 shall be moved approximately 10ft south and 25ft west of the grid coordinates shown in the design drawings. This change is being made as the original location of RW5 is inaccessible to the drill rig.		NONE

he time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

ecommended by: Joe McGeachy / SPM
Engineer

n neer Comment: Revised location reviewed by Cliff Yantz of Varzyn and no exceptions were taken. Revised location will not change performance of remediation system.

J.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

J. EPA Comment: _____

Approved by: _____ / _____
Owner

epted by: Joe E. Jankowski / 9-28-94
Contractor

3: ccepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount.
T s document shall become an amendment to the contract and all provisions of the contract will apply hereto.

WRRFOLXLS
6/30/94

VARZYN

PLEASE PROCESS WITHOUT DELAY

FIELD ORDER

NO: 15

'o are hereby requested to comply with the following changes from the contract plans and specifications.

o: Mike Riley	Date: 10/4/94	Project No.: 250146
Co ract: WRR RA Construction	Work Item Affected: Well Drilling	Owner: WRE ED/RA SETTLERS
tem Written Description of Change and Reason ic Include Affect on Completion Schedule.		Attachments, References, Affected Contract Documents
The following wells have been damaged during construction activities: MW83AD, MW83AS and P3. Weston is directed to investigate each well and to repair or abandon/replace each well as required. If repair of the monitoring well is NOT possible, abandon the well according to the procedures outlined in Technical Specifications Section 2675 as modified by Addendum #1. Replace each abandoned well as specified on the attached sheet.		Pg 2 of 2 - well replacement details

T time provided for completion in the contract is (unchanged) (increased) (decreased) by 0 calendar days.

Recommended by: Ben McGeady / BTM
Engineer

Engineer Comment: Replacement of monitoring wells is required to allow long term monitoring of the site.

U.S. EPA Review: _____ / _____ U.S. EPA Attachments: Yes / No
RPM

U.S. EPA Comment:

Approved by: _____ / _____
Owner

Accepted by: Michael T. Daly / 10/4/94
Contractor

By accepting this Field Order, CONTRACTOR acknowledges that work will be performed for no increase in the contracted amount. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

E

SYSTEM START-UP ANALYTICAL RESULTS

E1

INFLUENT/EFFLUENT WATER SAMPLES

INORGANIC REPORT
WAYNE RECLAMATION
COLUMBIA CITY IN
Project Number: 3868.0080

DRAFT

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L10295-001	PT-INFLUENT-1	Biochemical Oxygen Demand	< 1	1	WasteH2O	mg/L	07-MAR-95	09-MAR-95
		Chemical Oxygen Demand	31	20	WasteH2O	mg/L	07-MAR-95	13-MAR-95
		Cyanide, Total	< 0.005	0.005	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Mercury	< 0.0002	0.0002	WasteH2O	mg/L	07-MAR-95	14-MAR-95
		Nitrogen, Ammonia	1.58	0.10	WasteH2O	mg/L	07-MAR-95	14-MAR-95
		Oil and Grease	1	1	WasteH2O	mg/L	07-MAR-95	13-MAR-95
		Phenolics, Total	< 0.005	0.005	WasteH2O	mg/L	07-MAR-95	15-MAR-95
		Phosphorus, Total	0.83	0.02	WasteH2O	mg/L	07-MAR-95	15-MAR-95
		Solids, Total	838	20	WasteH2O	mg/L	07-MAR-95	09-MAR-95
		Solids, Total Suspended	21	2	WasteH2O	mg/L	07-MAR-95	12-MAR-95
		pH	7.21	0.01	WasteH2O	S.U.	07-MAR-95	08-MAR-95
L10295-002	PT-EFFLUENT-1	Biochemical Oxygen Demand	< 1	1	WasteH2O	mg/L	07-MAR-95	09-MAR-95
		Chemical Oxygen Demand	21	20	WasteH2O	mg/L	07-MAR-95	13-MAR-95
		Cyanide, Total	< 0.005	0.005	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Mercury	< 0.0002	0.0002	WasteH2O	mg/L	07-MAR-95	14-MAR-95
		Nitrogen, Ammonia	1.55	0.10	WasteH2O	mg/L	07-MAR-95	14-MAR-95
		Oil and Grease	< 1	1	WasteH2O	mg/L	07-MAR-95	13-MAR-95
		Phenolics, Total	< 0.005	0.005	WasteH2O	mg/L	07-MAR-95	15-MAR-95
		Phosphorus, Total	0.73	0.02	WasteH2O	mg/L	07-MAR-95	15-MAR-95
		Solids, Total	830	20	WasteH2O	mg/L	07-MAR-95	09-MAR-95
		Solids, Total Suspended	15	2	WasteH2O	mg/L	07-MAR-95	12-MAR-95
		pH	8.15	0.01	WasteH2O	S.U.	07-MAR-95	08-MAR-95

Footnotes

Sample #	Test	Footnote
L10295-001	Oil and Grease	A1S

Chk'd: App'd:
Date App'd:

WI Lab Certification ID#: 113138300

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

INORGANIC REPORT
WAYNE RECLAMATION
COLUMBIA CITY IN
Project Number: 3868.0080

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L10295-001	PT-INFLUENT-1	Arsenic	0.010	0.001	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Beryllium	< 0.0002	0.0002	WasteH2O	mg/L	07-MAR-95	17-MAR-95
		Biochemical Oxygen Demand	< 1	1	WasteH2O	mg/L	07-MAR-95	09-MAR-95
		Cadmium	< 0.0002	0.0002	WasteH2O	mg/L	07-MAR-95	17-MAR-95
		Chemical Oxygen Demand	31	20	WasteH2O	mg/L	07-MAR-95	13-MAR-95
		Chromium, Total	< 0.01	0.01	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Copper	< 0.01	0.01	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Cyanide, Total	< 0.005	0.005	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Lead	< 0.0015	0.0015	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Mercury	< 0.0002	0.0002	WasteH2O	mg/L	07-MAR-95	14-MAR-95
		Molybdenum	< 0.20	0.20	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Nickel	0.02	0.02	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Nitrogen, Ammonia	1.58	0.10	WasteH2O	mg/L	07-MAR-95	14-MAR-95
		Nitrogen, Total Kjeldahl	1.66	0.10	WasteH2O	mg/L	07-MAR-95	17-MAR-95
		Oil and Grease	1	1	WasteH2O	mg/L	07-MAR-95	13-MAR-95
		Phenolics, Total	< 0.005	0.005	WasteH2O	mg/L	07-MAR-95	15-MAR-95
		Phosphorus, Total	0.83	0.02	WasteH2O	mg/L	07-MAR-95	15-MAR-95
		Potassium	14.4	0.10	WasteH2O	mg/L	07-MAR-95	20-MAR-95
		Selenium	< 0.002	0.002	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Silver	< 0.01	0.01	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Solids, Total	838	20	WasteH2O	mg/L	07-MAR-95	09-MAR-95
		Solids, Total Suspended	21	2	WasteH2O	mg/L	07-MAR-95	12-MAR-95
		Zinc	0.03	0.01	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		pH	7.21	0.01	WasteH2O	S.U.	07-MAR-95	08-MAR-95

Chk'd: K-R Appr'd: CAW
Date Appr'd: 3-22-95

WI Lab Certification ID#: 113138300

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

INORGANIC REPORT
WAYNE RECLAMATION
COLUMBIA CITY IN
Project Number: 3868.0080

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L10295-002	PT-EFFLUENT-1	Arsenic	0.008	0.001	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Beryllium	< 0.0002	0.0002	WasteH2O	mg/L	07-MAR-95	17-MAR-95
		Biochemical Oxygen Demand	< 1	1	WasteH2O	mg/L	07-MAR-95	09-MAR-95
		Cadmium	< 0.0002	0.0002	WasteH2O	mg/L	07-MAR-95	17-MAR-95
		Chemical Oxygen Demand	21	20	WasteH2O	mg/L	07-MAR-95	13-MAR-95
		Chromium, Total	< 0.01	0.01	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Copper	< 0.01	0.01	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Cyanide, Total	< 0.005	0.005	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Lead	< 0.0015	0.0015	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Mercury	< 0.0002	0.0002	WasteH2O	mg/L	07-MAR-95	14-MAR-95
		Molybdenum	< 0.20	0.20	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Nickel	< 0.02	0.02	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Nitrogen, Ammonia	1.55	0.10	WasteH2O	mg/L	07-MAR-95	14-MAR-95
		Nitrogen, Total Kjeldahl	1.79	0.10	WasteH2O	mg/L	07-MAR-95	17-MAR-95
		Oil and Grease	< 1	1	WasteH2O	mg/L	07-MAR-95	13-MAR-95
		Phenolics, Total	< 0.005	0.005	WasteH2O	mg/L	07-MAR-95	15-MAR-95
		Phosphorus, Total	0.73	0.02	WasteH2O	mg/L	07-MAR-95	15-MAR-95
		Potassium	14.1	0.10	WasteH2O	mg/L	07-MAR-95	20-MAR-95
		Selenium	< 0.002	0.002	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Silver	< 0.01	0.01	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		Solids, Total	830	20	WasteH2O	mg/L	07-MAR-95	09-MAR-95
		Solids, Total Suspended	15	2	WasteH2O	mg/L	07-MAR-95	12-MAR-95
		Zinc	0.02	0.01	WasteH2O	mg/L	07-MAR-95	16-MAR-95
		pH	8.15	0.01	WasteH2O	S.U.	07-MAR-95	08-MAR-95

Footnotes

Sample #	Test	Footnote
L10295-001	Oil and Grease	A15

Chk'd: [illegible] App'd: CMW
Date App'd: 3/21/95

WI Lab Certification ID#: 113138300

VOLATILE ORGANICS ANALYSIS DATA SHEET (VOC LIST)

DRAFT

Sample ID#: INFLUENT
M.W. ID#: 10295-001
Entry Serial #:_____

Footnotes:_____
Client ID#: 3868.0080

Date Analyzed:	1. 3/17/95 2. 3/17/95 3._____ 4._____		Batch#: 35516
Rerun/Comment	1._____ 2._____ 3._____ 4._____		Logbook/pg#:1946/11p.124
Waters File ID:	1._____ 2._____ 3._____ 4._____		
Matrix: WATER	Preservation: HCL	Instrument ID: 1946	
% Solids: _____	% Solids Ref. (Batch#):_____		

Compound	Reporting Limit mg/kg	ug/L	ug/kg	D.F.*	Final Concentration ** ug/L, ug/kg, mg/kg dry weight	Footnote
Benzene	0.005	1.0	5.0	1.0	<1.0	
Bromodichloromethane	0.005	1.0	5.0	1.0	<100	A2
Bromoform	0.005	1.0	5.0	1.0	<1.0	
Bromomethane	0.01	2.0	10	1.0	<2.0	
Carbon tetrachloride	0.005	1.0	5.0	1.0	<1.0	
Chlorobenzene	0.005	1.0	5.0	1.0	<1.0	
Chlorodibromomethane	0.005	1.0	5.0	1.0	<1.0	
Chloroethane	0.01	2.0	10	1.0	<2.0	
2-Chloroethylvinyl ether	0.05	10	50	1.0	<10	
Chloroform	0.005	1.0	5.0	1.0	<100	A2
Chloromethane	0.01	2.0	10	1.0	<2.0	
1,2-Dichlorobenzene	0.005	1.0	5.0	1.0	<1.0	
1,3-Dichlorobenzene	0.005	1.0	5.0	1.0	<1.0	
1,4-Dichlorobenzene	0.005	1.0	5.0	1.0	<1.0	
1,1-Dichloroethane	0.005	1.0	5.0	1.0	4.6	
1,2-Dichloroethane	0.005	1.0	5.0	1.0	1.3	
1,1-Dichloroethene	0.005	1.0	5.0	1.0	1.4	
cis-1,2-Dichloroethene	0.005	1.0	5.0	100	1100	
trans-1,2-Dichloroethene	0.005	1.0	5.0	1.0	7.8	
1,2-Dichloropropane	0.005	1.0	5.0	1.0	<100	A2
cis-1,3-Dichloropropene	0.005	1.0	5.0	1.0	<1.0	
trans-1,3-Dichloropropene	0.005	1.0	5.0	1.0	<1.0	
Ethyl Benzene	0.005	1.0	5.0	1.0	<1.0	
Methylene chloride	0.015	3.0	15	1.0	<3.0	
1,1,2,2-Tetrachloroethane	0.005	1.0	5.0	1.0	<1.0	
Tetrachloroethene	0.005	1.0	5.0	1.0	<1.0	
Toluene	0.005	1.0	5.0	1.0	<1.0	
1,1,1-Trichloroethane	0.005	1.0	5.0	1.0	<1.0	
1,1,2-Trichloroethane	0.005	1.0	5.0	1.0	<1.0	
Trichloroethene	0.005	1.0	5.0	100	170	
Trichlorofluoromethane	0.005	1.0	5.0	1.0	<1.0	
Vinyl chloride	0.005	1.0	5.0	100	180	
m + p-Xylene	0.01	2.0	10	1.0	<2.0	
o-Xylene	0.005	1.0	5.0	1.0	<1.0	
Acrolein	0.5	100	500	1.0	NR	
Acrylonitrile	0.5	100	500	1.0	NR	

* Dilution Factor NR - Not Required

** Concentration Equation: Concentration (ppb) = (Final response - A) x D.F. / B Where: A = Y-intercept, B = Slope

Calc. by: 3/17/95 Reviewed by:_____/_____/_____ Approved by:_____/_____/_____ VOADS.XLS

VOLATILE ORGANICS ANALYSIS DATA SHEET (VOC LIST)

DRAFT

Sample ID#: EFFLUENT
M.W. ID#: 10295-002
Entry Serial #:_____

Footnotes:_____
Client ID#: 3868.0080

Date Analyzed:	1. 3/17/95	2. 3/17/95 3. 3/17/95 4._____	Batch#: 35516
Rerun/Comment	1._____	2._____ 3._____ 4._____	Logbook/pg#:1946/11p.124
Waters File ID:	1._____	2._____ 3._____ 4._____	
Matrix: WATER		Preservation: HCL	Instrument ID: 1946
% Solids: _____		% Solids Ref. (Batch#):_____	

Compound	Reporting Limit mg/kg	ug/L	ug/kg	D.F.*	Final Concentration ** ug/L, ug/kg, mg/kg dry weight	Footnote
Benzene	0.005	1.0	5.0	1.0	<1.0	
Bromodichloromethane	0.005	1.0	5.0	1.0	<1.0	
Bromoform	0.005	1.0	5.0	1.0	<1.0	
Bromomethane	0.01	2.0	10	1.0	<2.0	
Carbon tetrachloride	0.005	1.0	5.0	1.0	<1.0	
Chlorobenzene	0.005	1.0	5.0	1.0	<1.0	
Chlorodibromomethane	0.005	1.0	5.0	1.0	<1.0	
Chloroethane	0.01	2.0	10	1.0	<2.0	
2-Chloroethylvinyl ether	0.05	10	50	1.0	<10	
Chloroform	0.005	1.0	5.0	1.0	<1.0	
Chloromethane	0.01	2.0	10	1.0	<2.0	
1,2-Dichlorobenzene	0.005	1.0	5.0	1.0	<1.0	
1,3-Dichlorobenzene	0.005	1.0	5.0	1.0	<1.0	
1,4-Dichlorobenzene	0.005	1.0	5.0	1.0	<1.0	
1,1-Dichloroethane	0.005	1.0	5.0	1.0	<1.0	
1,2-Dichloroethane	0.005	1.0	5.0	1.0	<1.0	
1,1-Dichloroethene	0.005	1.0	5.0	1.0	<1.0	
cis-1,2-Dichloroethene	0.005	1.0	5.0	5.0	45	
trans-1,2-Dichloroethene	0.005	1.0	5.0	1.0	<1.0	
1,2-Dichloropropane	0.005	1.0	5.0	1.0	<1.0	
cis-1,3-Dichloropropene	0.005	1.0	5.0	1.0	<1.0	
trans-1,3-Dichloropropene	0.005	1.0	5.0	1.0	<1.0	
Ethyl Benzene	0.005	1.0	5.0	1.0	<1.0	
Methylene chloride	0.015	3.0	15	1.0	<3.0	
1,1,2,2-Tetrachloroethane	0.005	1.0	5.0	1.0	<1.0	
Tetrachloroethene	0.005	1.0	5.0	1.0	<1.0	
Toluene	0.005	1.0	5.0	1.0	<1.0	
1,1,1-Trichloroethane	0.005	1.0	5.0	1.0	<1.0	
1,1,2-Trichloroethane	0.005	1.0	5.0	1.0	<1.0	
Trichloroethene	0.005	1.0	5.0	1.0	3.4	
Trichlorofluoromethane	0.005	1.0	5.0	1.0	<1.0	
Vinyl chloride	0.005	1.0	5.0	1.0	<1.0	
m + p-Xylene	0.01	2.0	10	1.0	<2.0	
o-Xylene	0.005	1.0	5.0	1.0	<1.0	
Acrolein	0.5	100	500	1.0	NR	
Acrylonitrile	0.5	100	500	1.0	NR	

* Dilution Factor NR = Not Required

** Concentration Equation Concentration (ug/L) = [Peak response - A] x D.F./B Where A = Y-Intercept, B = Slope

Calc by: 3/23/95 Reviewed by:_____/_____/_____ Approved by:_____/_____/_____ VOADS.XLS

MONTGOMERY WATSON LABORATORY FINAL REVIEW SIGNATURES

INORGANIC REPORT
WAYNE RECLAMATION
COLUMBIA CITY IN
Project Number: 3868.0080

DRAFT

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L10420-001	PT-EFFLUENT-2	Alkalinity, Total	485	10	WasteH2O	mg/L	28-MAR-95	04-APR-95
		Arsenic	0.005	0.001	WasteH2O	mg/L	28-MAR-95	04-APR-95
		Chemical Oxygen Demand	31	20	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Cyanide, Total	< 0.005	0.005	WasteH2O	mg/L	28-MAR-95	30-MAR-95
		Mercury	< 0.0002	0.0002	WasteH2O	mg/L	28-MAR-95	04-APR-95
		Oil and Grease	< 1	1	WasteH2O	mg/L	28-MAR-95	30-MAR-95
		Phenolics, Total	< 0.005	0.005	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Phosphorus, Dissolved	0.55	0.02	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Phosphorus, Total	1.14	0.02	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Selenium	< 0.002	0.002	WasteH2O	mg/L	28-MAR-95	05-APR-95
		Silver	< 0.01	0.01	WasteH2O	mg/L	28-MAR-95	05-APR-95
		Solids, Total	882	20	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Solids, Total Suspended	15	2	WasteH2O	mg/L	28-MAR-95	04-APR-95
		Sulfate	146	10	WasteH2O	mg/L	28-MAR-95	05-APR-95
		pH	8.04	0.01	WasteH2O	S.U.	28-MAR-95	29-MAR-95
L10420-002	PT-INFLUENT-2	Alkalinity, Total	488	10	WasteH2O	mg/L	28-MAR-95	04-APR-95
		Arsenic	0.008	0.001	WasteH2O	mg/L	28-MAR-95	04-APR-95
		Chemical Oxygen Demand	28	20	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Cyanide, Total	< 0.005	0.005	WasteH2O	mg/L	28-MAR-95	30-MAR-95
		Mercury	< 0.0002	0.0002	WasteH2O	mg/L	28-MAR-95	04-APR-95
		Oil and Grease	< 1	1	WasteH2O	mg/L	28-MAR-95	30-MAR-95
		Phenolics, Total	< 0.005	0.005	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Phosphorus, Dissolved	0.71	0.02	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Phosphorus, Total	1.25	0.02	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Selenium	< 0.002	0.002	WasteH2O	mg/L	28-MAR-95	05-APR-95
		Silver	< 0.01	0.01	WasteH2O	mg/L	28-MAR-95	05-APR-95
		Solids, Total	884	20	WasteH2O	mg/L	28-MAR-95	31-MAR-95
		Solids, Total Suspended	13	2	WasteH2O	mg/L	28-MAR-95	04-APR-95
		Sulfate	152	10	WasteH2O	mg/L	28-MAR-95	05-APR-95
		pH	7.02	0.01	WasteH2O	S.U.	28-MAR-95	29-MAR-95

Chk'd: App'd:
Date App'd:

WI Lab Certification ID#: 113138300

PCB REPORT
WAYNE RECLAMATION
COLUMBIA CITY IN
Project Number: 3868.0080

DRAFT

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L10420-001	PT-EFFLUENT-2	PCB-1016	< 0.50	0.50	WasteH20	ug/L	
		PCB-1221	< 1.0	1.0	WasteH20	ug/L	
		PCB-1232	< 1.0	1.0	WasteH20	ug/L	
		PCB-1242	< 0.50	0.50	WasteH20	ug/L	
		PCB-1248	< 0.50	0.50	WasteH20	ug/L	
		PCB-1254	< 1.0	1.0	WasteH20	ug/L	
		PCB-1260	< 1.0	1.0	WasteH20	ug/L	
		Sample Date: 28-MAR-95					
		Extract Date: 03-APR-95					
		Analysis Date: 04-APR-95					
L10420-002	PT-INFLUENT-2	PCB-1016	< 0.50	0.50	WasteH20	ug/L	
		PCB-1221	< 1.0	1.0	WasteH20	ug/L	
		PCB-1232	< 1.0	1.0	WasteH20	ug/L	
		PCB-1242	< 0.50	0.50	WasteH20	ug/L	
		PCB-1248	< 0.50	0.50	WasteH20	ug/L	
		PCB-1254	< 1.0	1.0	WasteH20	ug/L	
		PCB-1260	< 1.0	1.0	WasteH20	ug/L	
		Sample Date: 28-MAR-95					
		Extract Date: 03-APR-95					
		Analysis Date: 04-APR-95					

Chk'd: App'd:
Date App'd:

WI Lab Certification ID#: 113138300

VOLATILE ORGANIC REPORT
WAYNE RECLAMATION
COLUMBIA CITY IN
Project Number: 3868.0080

DRAFT

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L10420-002	PT-INFLUENT-2	Benzene	< 1.0	1.0	WasteH2O	ug/L	
		Bromodichloromethane	< 1.0	1.0	WasteH2O	ug/L	
		Bromoform	< 1.0	1.0	WasteH2O	ug/L	A17
		Bromomethane	< 2.0	2.0	WasteH2O	ug/L	
		Carbon tetrachloride	< 1.0	1.0	WasteH2O	ug/L	
		Chlorobenzene	< 1.0	1.0	WasteH2O	ug/L	
		Chlorodibromomethane	< 1.0	1.0	WasteH2O	ug/L	A17
		Chloroethane	< 2.0	2.0	WasteH2O	ug/L	
		2-Chloroethyl vinyl ether	< 10	10	WasteH2O	ug/L	A17
		Chloroform	< 3.0	1.0	WasteH2O	ug/L	A2
		Chloromethane	< 2.0	2.0	WasteH2O	ug/L	
		1,2-Dichlorobenzene	< 1.0	1.0	WasteH2O	ug/L	
		1,3-Dichlorobenzene	< 1.0	1.0	WasteH2O	ug/L	
		1,4-Dichlorobenzene	< 1.0	1.0	WasteH2O	ug/L	
		1,1-Dichloroethane	< 1.0	1.0	WasteH2O	ug/L	
		1,2-Dichloroethane	< 1.0	1.0	WasteH2O	ug/L	
		1,1-Dichloroethene	< 1.0	1.0	WasteH2O	ug/L	
		cis-1,2-Dichloroethene	890	1.0	WasteH2O	ug/L	
		trans-1,2-Dichloroethene	25	1.0	WasteH2O	ug/L	
		1,2-Dichloropropane	< 1.0	1.0	WasteH2O	ug/L	
		cis-1,3-Dichloropropene	< 1.0	1.0	WasteH2O	ug/L	
		trans-1,3-Dichloropropene	< 1.0	1.0	WasteH2O	ug/L	
		Ethylbenzene	< 1.0	1.0	WasteH2O	ug/L	
		Methylene chloride	< 3.0	3.0	WasteH2O	ug/L	
		1,1,2,2-Tetrachloroethane	< 1.0	1.0	WasteH2O	ug/L	
		Tetrachloroethene	< 1.0	1.0	WasteH2O	ug/L	
		Toluene	< 1.0	1.0	WasteH2O	ug/L	
		1,1,1-Trichloroethane	< 1.0	1.0	WasteH2O	ug/L	
		1,1,2-Trichloroethane	< 1.0	1.0	WasteH2O	ug/L	
		Trichloroethene	82	1.0	WasteH2O	ug/L	
		Trichlorofluoromethane	< 1.0	1.0	WasteH2O	ug/L	
		Vinyl chloride	300	1.0	WasteH2O	ug/L	
		m + p-Xylene	< 2.0	2.0	WasteH2O	ug/L	
		o-Xylene	< 1.0	1.0	WasteH2O	ug/L	

Sample Date: 28-MAR-95
Analysis Date: 31-MAR-95, 05-APR-95

Chk'd: App'd:
Date App'd:

WI Lab Certification ID#: 113138300

VOLATILE ORGANIC REPORT
WAYNE RECLAMATION
COLUMBIA CITY IN
Project Number: 3868.0080

DRAFT

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L10420-001	PT-EFFLUENT-2	Benzene	< 1.0	1.0	WasteH2O	ug/L	
		Bromodichloromethane	< 1.0	1.0	WasteH2O	ug/L	
		Bromoform	< 1.0	1.0	WasteH2O	ug/L	A17
		Bromomethane	< 2.0	2.0	WasteH2O	ug/L	
		Carbon tetrachloride	< 1.0	1.0	WasteH2O	ug/L	
		Chlorobenzene	< 1.0	1.0	WasteH2O	ug/L	
		Chlorodibromomethane	< 1.0	1.0	WasteH2O	ug/L	A17
		Chloroethane	< 2.0	2.0	WasteH2O	ug/L	
		2-Chloroethyl vinyl ether	< 10	10	WasteH2O	ug/L	A17
		Chloroform	< 1.0	1.0	WasteH2O	ug/L	
		Chloromethane	< 2.0	2.0	WasteH2O	ug/L	
		1,2-Dichlorobenzene	< 1.0	1.0	WasteH2O	ug/L	
		1,3-Dichlorobenzene	< 1.0	1.0	WasteH2O	ug/L	
		1,4-Dichlorobenzene	< 1.0	1.0	WasteH2O	ug/L	
		1,1-Dichloroethane	< 1.0	1.0	WasteH2O	ug/L	
		1,2-Dichloroethane	< 1.0	1.0	WasteH2O	ug/L	
		1,1-Dichloroethene	< 1.0	1.0	WasteH2O	ug/L	
		cis-1,2-Dichloroethene	31	1.0	WasteH2O	ug/L	G1
		trans-1,2-Dichloroethene	< 1.0	1.0	WasteH2O	ug/L	
		1,2-Dichloropropane	< 1.0	1.0	WasteH2O	ug/L	
		cis-1,3-Dichloropropene	< 1.0	1.0	WasteH2O	ug/L	
		trans-1,3-Dichloropropene	< 1.0	1.0	WasteH2O	ug/L	
		Ethylbenzene	< 1.0	1.0	WasteH2O	ug/L	
		Methylene chloride	< 3.0	3.0	WasteH2O	ug/L	
		1,1,2,2-Tetrachloroethane	< 1.0	1.0	WasteH2O	ug/L	
		Tetrachloroethene	< 1.0	1.0	WasteH2O	ug/L	
		Toluene	< 1.0	1.0	WasteH2O	ug/L	
		1,1,1-Trichloroethane	< 1.0	1.0	WasteH2O	ug/L	
		1,1,2-Trichloroethane	< 1.0	1.0	WasteH2O	ug/L	
		Trichloroethene	2.4	1.0	WasteH2O	ug/L	
		Trichlorofluoromethane	< 1.0	1.0	WasteH2O	ug/L	
		Vinyl chloride	< 1.0	1.0	WasteH2O	ug/L	
		m + p-Xylene	< 2.0	2.0	WasteH2O	ug/L	
		o-Xylene	< 1.0	1.0	WasteH2O	ug/L	

Sample Date: 28-MAR-95
Analysis Date: 31-MAR-95, 05-APR-95

Chk'd: App'd:
Date App'd:

WI Lab Certification ID#: 113138300

E2

INFLUENT/EFFLUENT AIR SAMPLES

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14

Client Name: Montgomery Watson
Client ID: AT-IN1
Lab ID: 110531-0001-8A
Matrix: AIR Sampled: 07 MAR 95 Received: 08 MAR 95
Authorized: 08 MAR 95 Prepared: NA Analyzed: 17 MAR 95

Parameter	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ppb (v/v)	670
Chloromethane	ND	ppb (v/v)	1300
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ppb (v/v)	670
Vinyl chloride	1900	ppb (v/v)	670
Bromomethane	ND	ppb (v/v)	670
Chloroethane	ND	ppb (v/v)	1300
Trichlorofluoromethane	ND	ppb (v/v)	670
1,1-Dichloroethene	ND	ppb (v/v)	670
Carbon disulfide	ND	ppb (v/v)	3400
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ppb (v/v)	670
Acetone	ND	ppb (v/v)	3400
Methylene chloride	ND	ppb (v/v)	670
trans-1,2-Dichloroethene	1600	ppb (v/v)	670
1,1-Dichloroethane	ND	ppb (v/v)	670
Vinyl acetate	ND	ppb (v/v)	3400
cis-1,2-Dichloroethene	40000	ppb (v/v)	670
2-Butanone	ND	ppb (v/v)	3400
Chloroform	ND	ppb (v/v)	670
1,1,1-Trichloroethane	7300	ppb (v/v)	670
Carbon tetrachloride	ND	ppb (v/v)	670
Benzene	ND	ppb (v/v)	670
1,2-Dichloroethane	ND	ppb (v/v)	670
Trichloroethene	28000	ppb (v/v)	670
1,2-Dichloropropane	ND	ppb (v/v)	670
Bromodichloromethane	ND	ppb (v/v)	670
cis-1,3-Dichloropropene	ND	ppb (v/v)	670
4-Methyl-2-pentanone	ND	ppb (v/v)	1300
Toluene	1100	ppb (v/v)	670
trans-1,3-Dichloropropene	ND	ppb (v/v)	670
1,1,2-Trichloroethane	ND	ppb (v/v)	670
Tetrachloroethene	3400	ppb (v/v)	670
2-Hexanone	ND	ppb (v/v)	1300
Dibromochloromethane	ND	ppb (v/v)	670
1,2-Dibromoethane (EDB)	ND	ppb (v/v)	670
Chlorobenzene	ND	ppb (v/v)	670
Ethylbenzene	ND	ppb (v/v)	670
Xylenes (total)	ND	ppb (v/v)	670
Styrene	ND	ppb (v/v)	670
Bromoform	ND	ppb (v/v)	670

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Jason Men Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14 (CONT.)

Client Name: Montgomery Watson
Client ID: AT-IN1
Lab ID: 110531-0001-SA
Matrix: AIR Sampled: 07 MAR 95 Received: 08 MAR 95
Authorized: 08 MAR 95 Prepared: NA Analyzed: 17 MAR 95

Parameter	Result	Units	Reporting Limit
1,1,2,2-Tetrachloroethane	ND	ppb (v/v)	670
4-Ethyl toluene	ND	ppb (v/v)	670
1,3,5-Trimethylbenzene	ND	ppb (v/v)	670
1,2,4-Trimethylbenzene	ND	ppb (v/v)	670
1,3-Dichlorobenzene	ND	ppb (v/v)	670
1,4-Dichlorobenzene	ND	ppb (v/v)	670
1,2-Dichlorobenzene	ND	ppb (v/v)	670
1,2,4-Trichlorobenzene	ND	ppb (v/v)	1300
Hexachlorobutadiene	ND	ppb (v/v)	1300

ND = Not detected
NA = Not applicable

Reported By: Jason Men Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14

Client Name: Montgomery Watson
Client ID: AT-EFF1
Lab ID: 110531-0002-SA
Matrix: AIR
Authorized: 08 MAR 95

Sampled: 07 MAR 95
Prepared: NA

Received: 08 MAR 95
Analyzed: 17 MAR 95

Parameter	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ppb (v/v)	11
Chloromethane	ND	ppb (v/v)	22
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ppb (v/v)	11
Vinyl chloride	1300	ppb (v/v)	11
Bromomethane	ND	ppb (v/v)	11
Chloroethane	ND	ppb (v/v)	22
Trichlorofluoromethane	ND	ppb (v/v)	11
1,1-Dichloroethene	34	ppb (v/v)	11
Carbon disulfide	ND	ppb (v/v)	56
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ppb (v/v)	11
Acetone	ND	ppb (v/v)	56
Methylene chloride	ND	ppb (v/v)	11
trans-1,2-Dichloroethene	150	ppb (v/v)	11
1,1-Dichloroethane	30	ppb (v/v)	11
Vinyl acetate	ND	ppb (v/v)	56
cis-1,2-Dichloroethene	1900	ppb (v/v)	11
2-Butanone	ND	ppb (v/v)	56
Chloroform	ND	ppb (v/v)	11
1,1,1-Trichloroethane	260	ppb (v/v)	11
Carbon tetrachloride	ND	ppb (v/v)	11
Benzene	ND	ppb (v/v)	11
1,2-Dichloroethane	ND	ppb (v/v)	11
Trichloroethene	830	ppb (v/v)	11
1,2-Dichloropropane	ND	ppb (v/v)	11
Bromodichloromethane	ND	ppb (v/v)	11
cis-1,3-Dichloropropene	ND	ppb (v/v)	11
4-Methyl-2-pentanone	ND	ppb (v/v)	22
Toluene	22	ppb (v/v)	11
trans-1,3-Dichloropropene	ND	ppb (v/v)	11
1,1,2-Trichloroethane	ND	ppb (v/v)	11
Tetrachloroethene	64	ppb (v/v)	11
2-Hexanone	ND	ppb (v/v)	22
Dibromochloromethane	ND	ppb (v/v)	11
1,2-Dibromoethane (EDB)	ND	ppb (v/v)	11
Chlorobenzene	ND	ppb (v/v)	11
Ethylbenzene	ND	ppb (v/v)	11
Xylenes (total)	ND	ppb (v/v)	11
Styrene	ND	ppb (v/v)	11
Bromoform	ND	ppb (v/v)	11

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Jason Men

Approved By: Dave Olson

Volatile Organics by GCMS - EPA TO14 (CONT.)

Client Name: Montgomery Watson
Client ID: AT-EFF1
Lab ID: 110531-0002-SA
Matrix: AIR Sampled: 07 MAR 95 Received: 08 MAR 95
Authorized: 08 MAR 95 Prepared: NA Analyzed: 17 MAR 95

Parameter	Result	Units	Reporting Limit
1,1,2,2-Tetrachloroethane	ND	ppb (v/v)	11
4-Ethyl toluene	ND	ppb (v/v)	11
1,3,5-Trimethylbenzene	ND	ppb (v/v)	11
1,2,4-Trimethylbenzene	ND	ppb (v/v)	11
1,3-Dichlorobenzene	ND	ppb (v/v)	11
1,4-Dichlorobenzene	ND	ppb (v/v)	11
1,2-Dichlorobenzene	ND	ppb (v/v)	11
1,2,4-Trichlorobenzene	ND	ppb (v/v)	22
Hexachlorobutadiene	ND	ppb (v/v)	22

ND = Not detected
NA = Not applicable

Reported By: Jason Men Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14

Client Name: Montgomery Watson
Client ID: AT-IN2
Lab ID: 110602-0001-SA
Matrix: AIR Sampled: 09 MAR 95 Received: 10 MAR 95
Authorized: 10 MAR 95 Prepared: NA Analyzed: 21 MAR 95

Parameter	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ppb (v/v)	340
Chloromethane	ND	ppb (v/v)	670
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ppb (v/v)	340
Vinyl chloride	1500	ppb (v/v)	340
Bromomethane	ND	ppb (v/v)	340
Chloroethane	ND	ppb (v/v)	670
Trichlorofluoromethane	ND	ppb (v/v)	340
1,1-Dichloroethene	ND	ppb (v/v)	340
Carbon disulfide	ND	ppb (v/v)	1700
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ppb (v/v)	340
Acetone	ND	ppb (v/v)	1700
Methylene chloride	ND	ppb (v/v)	340
trans-1,2-Dichloroethene	1600	ppb (v/v)	340
1,1-Dichloroethane	550	ppb (v/v)	340
Vinyl acetate	ND	ppb (v/v)	1700
cis-1,2-Dichloroethene	35000	ppb (v/v)	340
2-Butanone	ND	ppb (v/v)	1700
Chloroform	ND	ppb (v/v)	340
1,1,1-Trichloroethane	6000	ppb (v/v)	340
Carbon tetrachloride	ND	ppb (v/v)	340
Benzene	ND	ppb (v/v)	340
1,2-Dichloroethane	ND	ppb (v/v)	340
Trichloroethene	34000	ppb (v/v)	340
1,2-Dichloropropane	ND	ppb (v/v)	340
Bromodichloromethane	ND	ppb (v/v)	340
cis-1,3-Dichloropropene	ND	ppb (v/v)	340
4-Methyl-2-pentanone	ND	ppb (v/v)	670
Toluene	1900	ppb (v/v)	340
trans-1,3-Dichloropropene	ND	ppb (v/v)	340
1,1,2-Trichloroethane	ND	ppb (v/v)	340
Tetrachloroethene	2300	ppb (v/v)	340
2-Hexanone	ND	ppb (v/v)	670
Dibromochloromethane	ND	ppb (v/v)	340
1,2-Dibromoethane (EDB)	ND	ppb (v/v)	340
Chlorobenzene	ND	ppb (v/v)	340
Ethylbenzene	ND	ppb (v/v)	340
Xylenes (total)	ND	ppb (v/v)	340
Styrene	ND	ppb (v/v)	340
Bromoform	ND	ppb (v/v)	340

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Dave Olson Approved By: Jason Men

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14 (CONT.)

Client Name: Montgomery Watson
Client ID: AT-IN2
Lab ID: 110602-0001-6A
Matrix: AIR Sampled: 09 MAR 95 Received: 10 MAR 95
Authorized: 10 MAR 95 Prepared: NA Analyzed: 21 MAR 95

Parameter	Result	Units	Reporting Limit
1,1,2,2-Tetrachloroethane	ND	ppb (v/v)	340
4-Ethyl toluene	ND	ppb (v/v)	340
1,3,5-Trimethylbenzene	ND	ppb (v/v)	340
1,2,4-Trimethylbenzene	ND	ppb (v/v)	340
1,3-Dichlorobenzene	ND	ppb (v/v)	340
1,4-Dichlorobenzene	ND	ppb (v/v)	340
1,2-Dichlorobenzene	ND	ppb (v/v)	340
1,2,4-Trichlorobenzene	ND	ppb (v/v)	670
Hexachlorobutadiene	ND	ppb (v/v)	670

ND = Not detected
NA = Not applicable

Reported By: Dave Olson Approved By: Jason Men

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14

Client Name: Montgomery Watson
Client ID: AT-EFF2
Lab ID: 110602-0002-5A
Matrix: AIR Sampled: 09 MAR 95 Received: 10 MAR 95
Authorized: 10 MAR 95 Prepared: NA Analyzed: 21 MAR 95

Parameter	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ppb (v/v)	17
Chloromethane	ND	ppb (v/v)	34
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ppb (v/v)	17
Vinyl chloride	3700	ppb (v/v)	17
Bromomethane	ND	ppb (v/v)	17
Chloroethane	ND	ppb (v/v)	34
Trichlorofluoromethane	ND	ppb (v/v)	17
1,1-Dichloroethene	58	ppb (v/v)	17
Carbon disulfide	ND	ppb (v/v)	84
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ppb (v/v)	17
Acetone	ND	ppb (v/v)	84
Methylene chloride	ND	ppb (v/v)	17
trans-1,2-Dichloroethene	160	ppb (v/v)	17
1,1-Dichloroethane	25	ppb (v/v)	17
Vinyl acetate	ND	ppb (v/v)	84
cis-1,2-Dichloroethene	1300	ppb (v/v)	17
2-Butanone	ND	ppb (v/v)	84
Chloroform	ND	ppb (v/v)	17
1,1,1-Trichloroethane	94	ppb (v/v)	17
Carbon tetrachloride	ND	ppb (v/v)	17
Benzene	ND	ppb (v/v)	17
1,2-Dichloroethane	ND	ppb (v/v)	17
Trichloroethene	170	ppb (v/v)	17
1,2-Dichloropropane	ND	ppb (v/v)	17
Bromodichloromethane	ND	ppb (v/v)	17
cis-1,3-Dichloropropene	ND	ppb (v/v)	17
4-Methyl-2-pentanone	ND	ppb (v/v)	34
Toluene	ND	ppb (v/v)	17
trans-1,3-Dichloropropene	ND	ppb (v/v)	17
1,1,2-Trichloroethane	ND	ppb (v/v)	17
Tetrachloroethene	ND	ppb (v/v)	17
2-Hexanone	ND	ppb (v/v)	34
Dibromochloromethane	ND	ppb (v/v)	17
1,2-Dibromoethane (EDB)	ND	ppb (v/v)	17
Chlorobenzene	ND	ppb (v/v)	17
Ethylbenzene	ND	ppb (v/v)	17
Xylenes (total)	ND	ppb (v/v)	17
Styrene	ND	ppb (v/v)	17
Bromoform	ND	ppb (v/v)	17

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Dave Olson Approved By: Jason Man

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14 (CONT.)

Client Name: Montgomery Watson
Client ID: MT-EPFZ
Lab ID: 110602-0002-SA
Matrix: AIR Sampled: 09 MAR 95 Received: 10 MAR 95
Authorized: 10 MAR 95 Prepared: NA Analyzed: 21 MAR 95

Parameter	Result	Units	Reporting Limit
1,1,2,2-Tetrachloroethane	ND	ppb (v/v)	17
4-Ethyl toluene	ND	ppb (v/v)	17
1,3,5-Trimethylbenzene	ND	ppb (v/v)	17
1,2,4-Trimethylbenzene	ND	ppb (v/v)	17
1,3-Dichlorobenzene	ND	ppb (v/v)	17
1,4-Dichlorobenzene	ND	ppb (v/v)	17
1,2-Dichlorobenzene	ND	ppb (v/v)	17
1,2,4-Trichlorobenzene	ND	ppb (v/v)	34
Hexachlorobutadiene	ND	ppb (v/v)	34

ND = Not detected
NA = Not applicable

Reported By: Dave Olson Approved By: Jason Men

Quanterra
Environmental Services

Volatile Organics by GCMS - EPA TO14

Client [redacted] Montgomery Watson
Client ID: 9317BB AT-IN-3
Lab ID: 110870-0001-8A
Matrix: AIR Sampled: 28 MAR 95 Received: 29 MAR 95
Authorized: 29 MAR 95 Prepared: NA Analyzed: 01 APR 95

Parameter	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ppb (v/v)	210
Chloromethane	ND	ppb (v/v)	420
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ppb (v/v)	210
Vinyl chloride	1400	ppb (v/v)	210
Bromomethane	ND	ppb (v/v)	210
Chloroethane	ND	ppb (v/v)	420
Trichlorofluoromethane	ND	ppb (v/v)	210
1,1-Dichloroethene	ND	ppb (v/v)	210
Carbon disulfide	ND	ppb (v/v)	1100
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ppb (v/v)	210
Acetone	ND	ppb (v/v)	1100
Methylene chloride	ND	ppb (v/v)	210
trans-1,2-Dichloroethene	490	ppb (v/v)	210
1,1-Dichloroethane	280	ppb (v/v)	210
Vinyl acetate	ND	ppb (v/v)	1100
cis-1,2-Dichloroethene	8700	ppb (v/v)	210
2-Butanone	ND	ppb (v/v)	1100
Chloroform	ND	ppb (v/v)	210
1,1,1-Trichloroethane	3500	ppb (v/v)	210
Carbon tetrachloride	ND	ppb (v/v)	210
Benzene	ND	ppb (v/v)	210
1,2-Dichloroethane	ND	ppb (v/v)	210
Trichloroethene	14000	ppb (v/v)	210
1,2-Dichloropropane	ND	ppb (v/v)	210
Bromodichloromethane	ND	ppb (v/v)	210
cis-1,3-Dichloropropene	ND	ppb (v/v)	210
4-Methyl-2-pentanone	ND	ppb (v/v)	420
Toluene	950	ppb (v/v)	210
trans-1,3-Dichloropropene	ND	ppb (v/v)	210
1,1,2-Trichloroethane	ND	ppb (v/v)	210
Tetrachloroethene	2400	ppb (v/v)	210
2-Hexanone	ND	ppb (v/v)	420
Dibromochloromethane	ND	ppb (v/v)	210
1,2-Dibromoethane (EDB)	ND	ppb (v/v)	210
Chlorobenzene	ND	ppb (v/v)	210
Ethylbenzene	ND	ppb (v/v)	210
Xylenes (total)	ND	ppb (v/v)	210
Styrene	ND	ppb (v/v)	210
Bromoform	ND	ppb (v/v)	210

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Jason Men Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14 (CONT.)

Client Name: Montgomery Watson
Client ID: 930788 AT-DB-B
Lab ID: I10870-0001-SM
Matrix: AIR Sampled: 28 MAR 95 Received: 29 MAR 95
Authorized: 29 MAR 95 Prepared: NA Analyzed: 01 APR 95

Parameter	Result	Units	Reporting Limit
1,1,2,2-Tetrachloroethane	ND	ppb (v/v)	210
Benzyl chloride	ND	ppb (v/v)	210
4-Ethyl toluene	ND	ppb (v/v)	210
1,3,5-Trimethylbenzene	ND	ppb (v/v)	210
1,2,4-Trimethylbenzene	ND	ppb (v/v)	210
1,3-Dichlorobenzene	ND	ppb (v/v)	210
1,4-Dichlorobenzene	ND	ppb (v/v)	210
1,2-Dichlorobenzene	ND	ppb (v/v)	210
1,2,4-Trichlorobenzene	ND	ppb (v/v)	420
Hexachlorobutadiene	ND	ppb (v/v)	420

ND = Not detected
NA = Not applicable

Reported By: Jason Men Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14

Client Name: Montgomery Watson
Client ID: A-131 AT-EFF-3
Lab ID: 110870-0002-SA
Matrix: AIR Sampled: 28 MAR 95 Received: 29 MAR 95
Authorized: 29 MAR 95 Prepared: NA Analyzed: 01 APR 95

Parameter	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ppb (v/v)	17
Chloromethane	ND	ppb (v/v)	34
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ppb (v/v)	17
Vinyl chloride	1200	ppb (v/v)	17
Bromomethane	ND	ppb (v/v)	17
Chloroethane	ND	ppb (v/v)	34
Trichlorofluoromethane	ND	ppb (v/v)	17
1,1-Dichloroethene	110	ppb (v/v)	17
Carbon disulfide	ND	ppb (v/v)	84
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ppb (v/v)	17
Acetone	ND	ppb (v/v)	84
Methylene chloride	ND	ppb (v/v)	17
trans-1,2-Dichloroethene	200	ppb (v/v)	17
1,1-Dichloroethane	40	ppb (v/v)	17
Vinyl acetate	ND	ppb (v/v)	84
cis-1,2-Dichloroethene	1500	ppb (v/v)	17
2-Butanone	ND	ppb (v/v)	84
Chloroform	ND	ppb (v/v)	17
1,1,1-Trichloroethane	120	ppb (v/v)	17
Carbon tetrachloride	ND	ppb (v/v)	17
Benzene	ND	ppb (v/v)	17
1,2-Dichloroethane	ND	ppb (v/v)	17
Trichloroethene	180	ppb (v/v)	17
1,2-Dichloropropane	ND	ppb (v/v)	17
Bromodichloromethane	ND	ppb (v/v)	17
cis-1,3-Dichloropropene	ND	ppb (v/v)	17
4-Methyl-2-pentanone	ND	ppb (v/v)	34
Toluene	ND	ppb (v/v)	17
trans-1,3-Dichloropropene	ND	ppb (v/v)	17
1,1,2-Trichloroethane	ND	ppb (v/v)	17
Tetrachloroethene	ND	ppb (v/v)	17
2-Hexanone	ND	ppb (v/v)	34
Dibromochloromethane	ND	ppb (v/v)	17
1,2-Dibromoethane (EDB)	ND	ppb (v/v)	17
Chlorobenzene	ND	ppb (v/v)	17
Ethylbenzene	ND	ppb (v/v)	17
Xylenes (total)	ND	ppb (v/v)	17
Styrene	ND	ppb (v/v)	17
Bromoform	ND	ppb (v/v)	17

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Jason Man Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14 (CONT.)

Client Name: Montgomery Watson
Client ID: A-131 MT-SFF-B
Lab ID: 110870-0002-SA
Matrix: AIR Sampled: 28 MAR 95 Received: 29 MAR 95
Authorized: 29 MAR 95 Prepared: NA Analyzed: 01 APR 95

Parameter	Result	Units	Reporting Limit
1,1,2,2-Tetrachloroethane	ND	ppb (v/v)	17
Benzyl chloride	ND	ppb (v/v)	17
4-Ethyl toluene	ND	ppb (v/v)	17
1,3,5-Trimethylbenzene	ND	ppb (v/v)	17
1,2,4-Trimethylbenzene	ND	ppb (v/v)	17
1,3-Dichlorobenzene	ND	ppb (v/v)	17
1,4-Dichlorobenzene	ND	ppb (v/v)	17
1,2-Dichlorobenzene	ND	ppb (v/v)	17
1,2,4-Trichlorobenzene	ND	ppb (v/v)	34
Hexachlorobutadiene	ND	ppb (v/v)	34

ND = Not detected
NA = Not applicable

Reported By: Jason Man Approved By: Dave Olson

Quanterra
Environmental Services

Volatile Organics by GCMS - EPA TO14

Client Name: [redacted]
Client ID: [redacted]
Lab ID: 110900-0001-SA
Matrix: AIR
Sampled: 29 MAR 95
Received: 30 MAR 95
Authorized: 30 MAR 95
Prepared: NA
Analyzed: 31 MAR 95

Parameter	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ppb (v/v)	170
Chloromethane	ND	ppb (v/v)	340
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ppb (v/v)	170
Vinyl chloride	1800	ppb (v/v)	170
Bromomethane	ND	ppb (v/v)	170
Chloroethane	ND	ppb (v/v)	340
Trichlorofluoromethane	ND	ppb (v/v)	170
1,1-Dichloroethene	ND	ppb (v/v)	170
Carbon disulfide	ND	ppb (v/v)	840
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ppb (v/v)	170
Acetone	ND	ppb (v/v)	840
Methylene chloride	ND	ppb (v/v)	170
trans-1,2-Dichloroethene	440	ppb (v/v)	170
1,1-Dichloroethane	270	ppb (v/v)	170
Vinyl acetate	ND	ppb (v/v)	840
cis-1,2-Dichloroethene	8200	ppb (v/v)	170
2-Butanone	ND	ppb (v/v)	840
Chloroform	ND	ppb (v/v)	170
1,1,1-Trichloroethane	2800	ppb (v/v)	170
Carbon tetrachloride	ND	ppb (v/v)	170
Benzene	ND	ppb (v/v)	170
1,2-Dichloroethane	ND	ppb (v/v)	170
Trichloroethene	12000	ppb (v/v)	170
1,2-Dichloropropane	ND	ppb (v/v)	170
Bromodichloromethane	ND	ppb (v/v)	170
cis-1,3-Dichloropropene	ND	ppb (v/v)	170
4-Methyl-2-pentanone	ND	ppb (v/v)	340
Toluene	990	ppb (v/v)	170
trans-1,3-Dichloropropene	ND	ppb (v/v)	170
1,1,2-Trichloroethane	ND	ppb (v/v)	170
Tetrachloroethene	1900	ppb (v/v)	170
2-Hexanone	ND	ppb (v/v)	340
Dibromochloromethane	ND	ppb (v/v)	170
1,2-Dibromoethane (EDB)	ND	ppb (v/v)	170
Chlorobenzene	ND	ppb (v/v)	170
Ethylbenzene	ND	ppb (v/v)	170
Xylenes (total)	ND	ppb (v/v)	170
Styrene	ND	ppb (v/v)	170
Bromoform	ND	ppb (v/v)	170

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Jason Men
Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14 (CONT.)

Client Name: Montgomery Watson
Client ID: AT-IN-4 (9218B)
Lab ID: 110900-0001-8A
Matrix: AIR
Sampled: 29 MAR 95
Received: 30 MAR 95
Authorized: 30 MAR 95
Prepared: NA
Analyzed: 31 MAR 95

Parameter	Result	Units	Reporting Limit
1,1,2,2-Tetrachloroethane	ND	ppb (v/v)	170
Benzyl chloride	ND	ppb (v/v)	170
4-Ethyl toluene	ND	ppb (v/v)	170
1,3,5-Trimethylbenzene	ND	ppb (v/v)	170
1,2,4-Trimethylbenzene	ND	ppb (v/v)	170
1,3-Dichlorobenzene	ND	ppb (v/v)	170
1,4-Dichlorobenzene	ND	ppb (v/v)	170
1,2-Dichlorobenzene	ND	ppb (v/v)	170
1,2,4-Trichlorobenzene	ND	ppb (v/v)	340
Hexachlorobutadiene	ND	ppb (v/v)	340

ND = Not detected
NA = Not applicable

Reported By: Jason Man
Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14

Client Name: Montgomery Watson
Client ID: MT-EFF-4 (A-3085)
Lab ID: 110900-0002-SA
Matrix: AIR Sampled: 29 MAR 95 Received: 30 MAR 95
Authorized: 30 MAR 95 Prepared: NA Analyzed: 31 MAR 95

Parameter	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ppb (v/v)	51
Chloromethane	ND	ppb (v/v)	100
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ppb (v/v)	51
Vinyl chloride	1700	ppb (v/v)	51
Bromomethane	ND	ppb (v/v)	51
Chloroethane	ND	ppb (v/v)	100
Trichlorofluoromethane	ND	ppb (v/v)	51
1,1-Dichloroethene	210	ppb (v/v)	51
Carbon disulfide	ND	ppb (v/v)	250
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ppb (v/v)	51
Acetone	ND	ppb (v/v)	250
Methylene chloride	ND	ppb (v/v)	51
trans-1,2-Dichloroethene	450	ppb (v/v)	51
1,1-Dichloroethane	100	ppb (v/v)	51
Vinyl acetate	ND	ppb (v/v)	250
cis-1,2-Dichloroethene	4000	ppb (v/v)	51
2-Butanone	ND	ppb (v/v)	250
Chloroform	ND	ppb (v/v)	51
1,1,1-Trichloroethane	360	ppb (v/v)	51
Carbon tetrachloride	ND	ppb (v/v)	51
Benzene	ND	ppb (v/v)	51
1,2-Dichloroethane	ND	ppb (v/v)	51
Trichloroethene	760	ppb (v/v)	51
1,2-Dichloropropane	ND	ppb (v/v)	51
Bromodichloromethane	ND	ppb (v/v)	51
cis-1,3-Dichloropropene	ND	ppb (v/v)	51
4-Methyl-2-pentanone	ND	ppb (v/v)	100
Toluene	ND	ppb (v/v)	51
trans-1,3-Dichloropropene	ND	ppb (v/v)	51
1,1,2-Trichloroethane	ND	ppb (v/v)	51
Tetrachloroethene	68	ppb (v/v)	51
2-Hexanone	ND	ppb (v/v)	100
Dibromochloromethane	ND	ppb (v/v)	51
1,2-Dibromoethane (EDB)	ND	ppb (v/v)	51
Chlorobenzene	ND	ppb (v/v)	51
Ethylbenzene	ND	ppb (v/v)	51
Xylenes (total)	ND	ppb (v/v)	51
Styrene	ND	ppb (v/v)	51
Bromoform	ND	ppb (v/v)	51

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Jason Men Approved By: Dave Olson

Quanterra Environmental Services

Volatile Organics by GCMS - EPA TO14 (CONT.)

Client Name: Montgomery Watson
Client ID: AT-EFF-4 (A-306)
Lab ID: 110900-0002-8A
Matrix: AIR Sampled: 29 MAR 95 Received: 30 MAR 95
Authorized: 30 MAR 95 Prepared: NA Analyzed: 31 MAR 95

Parameter	Result	Units	Reporting Limit
1,1,2,2-Tetrachloroethane	ND	ppb (v/v)	51
Benzyl chloride	ND	ppb (v/v)	51
4-Ethyl toluene	ND	ppb (v/v)	51
1,3,5-Trimethylbenzene	ND	ppb (v/v)	51
1,2,4-Trimethylbenzene	ND	ppb (v/v)	51
1,3-Dichlorobenzene	ND	ppb (v/v)	51
1,4-Dichlorobenzene	ND	ppb (v/v)	51
1,2-Dichlorobenzene	ND	ppb (v/v)	51
1,2,4-Trichlorobenzene	ND	ppb (v/v)	100
Hexachlorobutadiene	ND	ppb (v/v)	100

ND = Not detected
NA = Not applicable

Reported By: Jason Man Approved By: Dave Olson